

**GUIDANCE MANUAL ON THE  
RCRA REGULATION OF RECYCLED  
HAZARDOUS WASTES**

**Prepared for**

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DET TO: LARSEN, KATHLEEN  
SUBJ: RE: PROTEINURIA AND  
BENIGN GROWTHS



REBORN 10/14/1990  
BOTH STORE CATHERINE THERESA  
MOLLY THOMAS M. 104  
DANIEL DO. PROTEINURIA

100% Deoxygenated

ONE 100 DEOXYGENATED  
TWO 100 OXYGENATED  
ONE ALSO AN OXYGENATED



## INTRODUCTION

## CHAPTER 1

### **THE PURPOSE OF THIS MANUAL**

On January 4, 1985, the U.S. Environmental Protection Agency (EPA) amended the definition of solid waste used in regulations that implement Subtitle C of the Resource Conservation and Recovery Act of 1976, as amended (RCRA). This change (50 FR 614-668) primarily addresses the question of which materials are solid and hazardous wastes when they are recycled. In particular, the amendments define the Agency's jurisdiction under RCRA regarding materials that are considered solid wastes when they are recycled, and impose Subtitle C regulations on wastes that are hazardous and pose a substantial hazard to human health and the environment.

The purpose of this document is to provide guidance to State and EPA Regional personnel who must apply the new definition to determine which materials, when recycled, are solid and hazardous wastes.<sup>1/</sup> In addition, persons who recycle materials or generate materials that are recycled may use this manual to determine which regulations apply to them. Because the rule is complex, guidance is provided primarily in the form of examples

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<sup>1/</sup> RCRA defines a solid waste as any discarded material (except materials specifically excluded from designation as solid waste under 40 CFR 261.4 (a) or under a variance granted under 40 CFR 260.30 and 260.31). Discarded materials include both materials that are abandoned and materials that are recycled (40 CFR 261.2). This manual only concerns materials that are solid wastes when recycled. It does not address wastes that are abandoned.

illustrating application of the rule to actual recycling practices. These examples will help parties interested in similar cases determine whether a particular recycled material is subject to the RCRA Subtitle C requirements.

This manual considers only the provisions of Subtitle C of RCRA. Individual states may have extended regulation to materials or recycling practices not covered by the Federal regulations, or may impose additional requirements on materials or practices that are covered by Subtitle C of RCRA. The regulations applicable in each state must be reviewed to reach a final determination of the regulatory status of a given waste.

Users of this manual should exercise care in reaching conclusions about the regulatory status of recycling practices, to ensure that such practices fit exactly into one of the classifications presented. EPA retains final authority to judge the regulatory status of any recycling practice. Further, because the definition is subject to change, users should be certain to refer to the latest regulations. This manual will be updated periodically to reflect changes in the definition.

#### ORGANIZATION AND USE OF THE MANUAL

This manual is organized into three chapters:

- the Introduction, which provides an overview of the regulatory status of recycled wastes and defines the terms used in this manual;
- Examples of the application of the definition of solid waste to specific recycling practices; and
- an Index to the examples.

The remainder of this Introduction includes two sections. The next section provides an overview of the definition of solid waste, briefly defines categories of materials and activities that are relevant to determining whether a material is a solid (and hazardous) waste and thus is subject to Subtitle C regulations, and indicates which combinations of materials and activities are regulated. The second section provides more detailed definitions of specific activities, and for each type of activity discusses in detail what materials are subject to regulation.

The Examples provided in the second chapter of the manual are organized for convenience primarily by type of recycling activity. The examples are presented in a worksheet format shown in Exhibit 1. This worksheet includes a series of questions that illustrates the steps necessary to categorize the sample cases, and may be used to evaluate other recycling activities. By following the worksheet and correctly answering all questions, users should be able to determine the Subtitle C regulatory status of any recycled material. Examples are provided for each category of recycling and for materials or activities that are subject to the special provisions. The first page of Chapter 2 describes the organization of that chapter.

The final chapter provides an Index designed to help users locate examples similar to those they wish to evaluate. The index cross-references examples according to the following terms:

- o Common descriptors of recycling activities (e.g., distillation, secondary smelting, etc.);
- o The regulatory definition of the recycled material (e.g., characteristic sludge, listed by-product, etc.);
- o Common descriptors of recyclable materials (e.g., solvents, plating baths, etc.); and
- o The industry practicing this type of recycling activity.

Before attempting to evaluate a specific recycling practice, the user should read the remainder of the Introduction. This chapter gives an overview of the terms and categories relevant to determining whether a recycled material is regulated under Subtitle C of RCRA and provides a detailed discussion of the regulated practices and regulatory requirements. The user then should consult the Index to locate cases similar to the one he or she wishes to classify, and review these examples to determine how the definition applies to his or her particular case.

Once the user has reviewed the relevant examples and has reached a conclusion about the regulatory status of the material in question, we recommend that he or she re-read the relevant parts of the final section of this Introduction. The detailed

discussions of each recycling practice in that section will serve as a final check on the conclusions developed from reviewing specific examples.

If no appropriate examples are located, the user should attempt to classify the practice by using the worksheet and consulting the detailed regulatory definitions provided in the final section of this Introduction. Additional assistance in using the manual is available through EPA's RCRA Hotline at (800) 424-9346 or (202) 382-3000.

#### AN OVERVIEW OF THE DEFINITION OF SOLID WASTE

##### Materials That Are Solid Wastes When Recycled

Under Subtitle C of RCRA, EPA has the authority to regulate the management of hazardous wastes. Hazardous wastes are defined in the statute as a subset of "solid wastes" (40 CFR 261.3(a)). EPA thus must determine whether a hazardous secondary material is a solid waste before it can assert Subtitle C jurisdiction over the management of that waste.<sup>2/</sup>

In the case of recycled materials, one must know both what the material is and how it is being recycled in order to determine whether it is a Subtitle C waste. The definition of solid waste (codified in 40 CFR 261) identifies four types of recycling activities that may involve solid waste management:

- o Use constituting disposal - This activity involves any direct placement of wastes or waste-derived products (products that contain a waste as an ingredient) onto the land (40 CFR 261.2(c)(1)).<sup>3/</sup>

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<sup>2/</sup> Throughout this manual, we refer for convenience to "hazardous secondary materials." This term refers to any hazardous material that can be a solid and hazardous waste when recycled. As described below, hazardous secondary materials include spent materials, sludges, by-products, commercial chemical products, or scrap metals (50 FR 616).

<sup>3/</sup> Use of a waste to produce a product that is placed on the land is also considered use constituting disposal.

- o Burning wastes or waste-derived fuels for energy recovery, or using wastes to produce a fuel (40 CFR 261.2(c)(2)).
- o Reclamation - This activity involves the regeneration of wastes or the recovery of material from wastes (40 CFR 261.2(c)(3)).
- o Speculative accumulation - This activity includes (1) accumulating wastes that one legitimately expects to recycle, but for which no recycling market (or no feasible recycling method) currently exists, and (2) accumulating wastes for recycling without recycling at least 75 percent of the accumulated material within a one-year period (40 CFR 261.2(c)(4) and 261.1(c)(8)).

The definition also distinguishes among five types of hazardous materials:

- o Spent materials: materials that have been used and as a result of such use become contaminated by physical or chemical impurities, such that they can no longer serve the purpose for which they were produced without being regenerated (40 CFR 261.1(c)(1)).
- o Sludges: residues from treating air or wastewater, or other residues from pollution control operations (40 CFR 260.10).
- o By-products: residual materials resulting from industrial, commercial, mining, and agricultural operations that are not primary products, are not produced separately, are not fit for a desired end use without substantial further processing, and are not spent materials, sludges, commercial chemical products, or scrap metals (40 CFR 261.1(c)(3)).
- o Commercial chemical products: commercial chemical products and intermediates, off-specification variants, spill residues, and container residues that are listed in 40 CFR 261.33 or exhibit one or more of the hazardous waste characteristics (50 FR 14219).

- o Scrap metal: bits and pieces of metal parts that are generated by metal processing operations or result from consumer use (40 CFR 261.1(c)(6)).

Exhibit 2 lists examples of wastes in each of these categories.

Finally, it is necessary to know on what basis a material would be defined as hazardous to determine its status, if recycled. Some materials are specifically listed as hazardous under 40 CFR 261.31-33 (listed wastes). Others exhibit one of the characteristics of hazardous wastes defined in 40 CFR 261.20-24 (ignitability, corrosivity, reactivity, and extraction procedure (EP) toxicity -- characteristic or non-listed wastes). Materials not defined as hazardous are not subject to Subtitle C regulation. Thus, we describe solid wastes as potentially subject to Subtitle C regulation. Solid wastes must also be hazardous -- either as a listed or a characteristic waste -- before being subject to such regulation (40 CFR 261.1(b)(1)).<sup>4/</sup>

Except for certain materials (discussed below), one must consider both the material and the recycling practice to determine whether a recycled material is defined as a solid (and potentially a hazardous) waste (40 CFR 261.2 (c)). Exhibit 3 shows the combinations of secondary materials and recycling activities for which the secondary material is defined as a solid waste. If such a secondary material is also defined as hazardous (i.e., it is specifically listed in 40 CFR 261.31-33 or exhibits a characteristic of hazardous wastes defined in 40 CFR 261.20-24), it is a hazardous waste and is subject to Subtitle C regulation.

As Exhibit 3 indicates, all scrap metals and all listed and characteristic spent materials, sludges, and by-products are solid wastes when used in a manner constituting disposal, burned for energy recovery, used to produce a fuel, or speculatively accumulated. In addition, all listed and characteristic commercial chemical products are solid wastes when used in a manner constituting disposal, burned as a fuel, or used to produce a fuel, unless this is their ordinary manner of use. (Commercial chemical products are not solid wastes when speculatively

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<sup>4/</sup> Certain solid wastes, listed under 40 CFR 261.4(b), are specifically excluded from the definition of hazardous waste.

accumulated.) Finally, the definition provides that only spent materials (both listed and characteristic), listed sludges, and listed by-products are solid wastes when reclaimed. The regulation excludes characteristic sludges and by-products and both listed and characteristic commercial chemical products that are reclaimed from the definition of solid waste, to avoid possible over-regulation of certain recycled materials that are more product-like than waste-like.

#### Materials That Are Not Spent Materials

Distinguishing spent materials from products that are not yet "spent" may present some difficulty. As noted above, a spent material is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing. EPA interprets "the purpose for which a material was produced" to include all uses of the product that are similar to the original use of the particular batch of material in question. For example, EPA cites the case of materials used as solvents to clean printed circuit boards (50 FR 624). If the solvents become too contaminated for this use but are still pure enough for similar applications (e.g., use as metal degreasers), they are not spent materials. Use of slightly contaminated solvents in this way is simply continued use of the original material rather than recycling of a spent material. However, the solvents would be spent materials if they had to be reclaimed before reuse or if the manner in which they were used was not similar to their original application. Examples of the latter are burning solvents as fuel, or using materials originally used as solvents as feedstocks in chemical manufacturing. (It should be noted that in the last example the solvent still may not be a solid waste, but this conclusion would be based on its use as a feedstock. See next section for details.) As another example, used plating baths reused directly in other plating processes would not be spent materials. If used for a purpose other than plating, however, the used plating baths would be a spent material.

Leftover unreacted raw materials from a process also are not spent materials, since they have never been used (50 FR 624). Similarly, leftover fuel is not classified as a spent material, since fuel, by definition, is spent only when it is destroyed to produce energy. In addition, off-specification fuels that are burned for energy recovery are not spent materials, since the

contamination is not sufficient to prevent its use for the intended purpose (as a fuel) (50 FR 630). Off-specification fuels used in other ways may be solid wastes, however. For example, use of the off-specification fuel in a manner constituting disposal would be solid waste management.

#### Materials That Are Not Solid Wastes When Recycled

In addition to identifying materials that are solid wastes when recycled, the regulation specifies which materials are not wastes when recycled (40 CFR 261.2 (e)). Specifically, the definition excludes three activities (except as noted below) that ordinarily are not considered to involve waste management because (1) they resemble ordinary production operations, or (2) they resemble ordinary use of commercial products. These activities are:

- Use or reuse of secondary materials as ingredients in industrial processes, provided the materials are not being reclaimed - This activity involves the direct use of a secondary material as an ingredient without prior reclamation. An example is the use of distillation bottoms from the production of carbon tetrachloride as a feedstock in producing tetrachloroethylene (50 FR 619).
- Use or reuse of secondary materials as effective substitutes for commercial products - This activity involves direct use of secondary materials in non-manufacturing applications or functions. (This situation differs from the one just described in that the material substitutes for a finished product rather than a raw material ingredient in a production process.) An example is the use of certain sludges as a substitute for commercial wastewater conditioners (50 FR 619-620).
- Return of secondary materials to the original primary production process in which they are generated without first reclaiming them - This activity is termed "closed-loop recycling." Materials qualify for the closed-loop exclusion if: (1) the secondary materials are returned for reuse in the process that generated them without

first being reclaimed; (2) the process to which these unreclaimed materials are returned is a primary production process (i.e., is based primarily on virgin raw materials as feedstocks); and (3) the materials are returned to the process as an ingredient or feedstock. An example of closed-loop recycling is remelting of emission control dusts in the primary metal smelting furnace that originally generated them (50 FR 620).

It is important to note that these exclusions do not apply to hazardous secondary materials used as fuels or as ingredients in waste-derived fuels; to hazardous secondary materials placed directly on the land or used in waste-derived products that will be placed on the land; or to hazardous secondary materials that are speculatively accumulated. In these situations, the material is a solid and hazardous waste, and subject to RCRA Subtitle C jurisdiction. (See 40 CFR 261.2(e)(2).) In addition, residues derived from listed wastes remain subject to RCRA Subtitle C jurisdiction. Residues derived from characteristic hazardous wastes are subject to Subtitle C regulations only if the residues themselves exhibit any of the hazardous waste characteristics.

#### Variances

The regulation defines three circumstances in which recycled materials that ordinarily would be considered solid wastes may be eligible for case-by-case variances (40 CFR 260.30):

- o Materials accumulated without sufficient amounts being recycled - Cases in which less than 75 percent of recyclable material is recycled (or shipped for recycling) within a year may be eligible for a variance if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. Without a variance, any hazardous secondary material left unrecycled would be defined as a solid waste, and subject to all applicable hazardous waste requirements. With a variance, the remaining accumulated material would be excluded from the definition of solid waste for the following year (40 CFR 260.31(a)).

\* Materials that are reclaimed and then reused as a feedstock within the original primary production process in which they were generated - These materials may receive a variance if the reclamation operation is deemed to be an essential part of the production process and the materials are handled in a manner commensurate with the management of raw materials or products. Without a variance, this activity would be defined as reclamation, and materials that are defined as solid wastes when reclaimed would be subject to the appropriate Subtitle C requirements. With a variance, the materials would be excluded from the definition of solid waste. For example, an ignitable solvent that is regenerated and returned to a chemical reactor as an ingredient ordinarily would be considered a solid waste, since reclamation of the spent material is required before reuse. Under the case-by-case variance provision, however, the material could be excluded from classification as a solid waste (40 CFR 260.31(b)). 5/

\* Materials that are reclaimed but must be reclaimed further before material recovery is completed - These materials may receive a variance if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and must be reclaimed further). Thus, materials that have undergone processing that substantially completes the recycling process might be excluded from definition as solid wastes. An example is ore concentrate reclaimed from electroplating wastes that must be

5/ It should be noted that on December 16, 1985, EPA requested comment on a generic exclusion from the definition of solid waste when: (1) the materials are returned, after being reclaimed, to the original process in which they were generated; (2) only tank storage is involved, and the entire process, through completion of reclamation, is "closed" (i.e., entirely connected with pipes or other comparable enclosed means of conveyance); (3) the materials are never accumulated in such tanks for over 12 months without being reclaimed; and (4) reclamation does not involve controlled flame combustion (50 FR 61265).

processed in a smelter before use. The ore concentrate is much like a raw material in this case and may be excluded from the definition of solid waste if a variance is granted. A variance will not be granted if the initial recycling step is minimal (40 CFR 260.31(c)).

Standards and criteria for EPA Regional Administrators to follow in granting or denying variances from classification as a solid waste are detailed in 40 CFR 260.31. In addition, 40 CFR 260.33 delineates the procedures for evaluating applications for variances, including public notification and comment periods. The Regional Administrator must follow these procedures in responding to requests that meet one of the three eligibility criteria described above. (If a variance application does not meet the eligibility criteria, the Regional Administrator may deny the request without following the formal evaluation procedures.)

#### Inherently Waste-Like Materials

Certain "inherently waste-like" materials are defined as solid and hazardous wastes regardless of how they are recycled (40 CFR 261.2 (d)). To identify an inherently waste-like materials, EPA must go through formal rulemaking to demonstrate how the material in question meets the criteria specified in 40 CFR 261.2(d). Wastes currently included in this category are the chlorinated dioxin- and dibenzofuran-containing wastes listed in Exhibit 4 as F020, F022, F023, F026, and F028. Waste F021 is not designated as a solid waste if it is used as an ingredient to make a product at the site of generation, but is a solid waste if recycled or disposed of in any other way.

#### Additional Exclusions

Finally, certain materials are explicitly excluded from the definition of solid waste (40 CFR 261.4 (a)). These materials are listed in Exhibit 5. The list includes two cases in which materials are excluded from the definition of solid waste only if they are recycled in specific ways:

- o Pulping liquors that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process (50 FR 14218) unless accumulated speculatively; and

- o Spent sulfuric acid used to produce virgin sulfuric acid, unless accumulated speculatively.

#### Applicable Regulations

The requirements that apply to recycled hazardous wastes are defined by regulations issued by EPA under Subtitle C of RCRA. Additional requirements may be imposed by individual states. This section describes the Subtitle C regulations that impose minimum requirements for such wastes.

In most cases, materials that are solid and hazardous wastes when recycled are subject to the general hazardous waste management requirements (i.e., the requirements applicable to hazardous wastes being stored or disposed rather than recycled) prior to recycling. Thus, generators of wastes destined for recycling are subject to waste characterization, notification, manifest, pre-transport, and (where applicable), short-term storage requirements for these wastes up to the point of recycling (40 CFR Part 262).<sup>6/</sup> Transporters of wastes destined for recycling are subject to the requirements of 40 CFR Part 263. Parties storing wastes prior to recycling are subject to requirements under 40 CFR 262.34 or 40 CFR 264 and 265 Subparts A through L. Recyclers who are not the generators of the waste are subject to the full Part 264 and 265 storage requirements, regardless of the length of the storage period.

Certain recycled materials -- for example, spent lead-acid batteries that are reclaimed and materials from which precious metals are recovered -- are subject to a lesser set of controls (40 CFR 266). These materials and the reduced requirements that apply to them are discussed in the detailed description of regulations in the next section.

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6/ Short-term storage regulations apply to generators of at least 1,000 kilograms of hazardous waste per month who store wastes in tanks or containers for no more than 90 days prior to recycling them on-site or sending them off-site for recycling. Short-term storage regulations also apply to generators of between 100 and 1,000 kilograms of hazardous waste per month who store wastes in tanks or containers for no more than 180 to 270 days before recycling them on-site or sending them off-site for recycling. (40 CFR 262.)

Wastes generated by generators of less than 100 kilograms per month are conditionally exempt from most Subtitle C requirements (40 CFR 261.5).<sup>7/</sup> (Acutely-hazardous wastes are exempt only if generated in quantities less than one kilogram per month.) Moreover, secondary materials that are excluded from the definition of solid waste or are exempt from regulation when they are to be recycled are excluded from the calculation of the 100 kilogram per month limit (40 CFR 261.5(c)). In addition, generators who recycle solid wastes but are not subject to 40 CFR Parts 262.34, 263, 264, or 265 because they neither store, transport, treat nor dispose of hazardous wastes (e.g., generators who regenerate solvents on-site in continuous distillation columns and recycle the reclaimed materials directly back to their original use) are excused from all other Subtitle C requirements for these wastes and need not include them in calculating the 100 kilogram per month exemption (50 FR 652). Therefore, whether other wastes are subject to Subtitle C regulation may depend in some cases on whether a waste destined for recycling is defined as a solid waste.

The useful products produced by recycling generally are not defined as wastes and therefore are not subject to Subtitle C regulation, with some exceptions. Hazardous materials produced by recycling that require further processing before use are still wastes rather than products, and remain subject to applicable regulations (50 FR 634).<sup>8/</sup> (This exception does not apply to products of the reclamation of characteristic by-products or characteristic sludges, since characteristic by-products and sludges that are reclaimed are not defined as solid wastes.) In

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<sup>7/</sup> This exemption was lowered from 1,000 kilograms per month to 100 kilograms per month under a rule promulgated in March 1986. This rule also establishes requirements for hazardous wastes from generators of between 100 and 1,000 kilograms per month; these requirements differ somewhat from requirements for wastes from larger quantity generators.

<sup>8/</sup> For example, lead and oxides obtained by cracking a spent lead-acid battery (a characteristic spent material) must be reclaimed by a secondary lead smelter or otherwise processed to recover the lead. Because battery-cracking does not complete the recycling process, and the material exhibits a hazardous characteristic (EP-toxicity), the lead and oxides remain a solid and hazardous waste and are subject to Subtitle C regulations.

addition, reclaimed materials that are not ordinarily considered to be commercial products, such as wastewaters or stabilized wastes, are defined as solid wastes; if hazardous, these wastes are subject to Subtitle C requirements (50 FR 634). Recycled materials destined for use as a fuel or for placement on the land for beneficial use are also subject to Subtitle C requirements if they contain a listed waste as an ingredient or exhibit a hazardous waste characteristic (see page 1-18 for possible exceptions). Finally, any residues produced by recycling are themselves hazardous wastes if (1) the material being recycled is a listed hazardous waste or (2) if the waste is not a listed waste, the residue exhibits one of the characteristics of a hazardous waste; these residues are subject to any applicable Subtitle C requirements (40 CFR 261.3). (It is important to note that waste-derived products that are placed on the land have been temporarily exempted from regulation under Subtitle C (40 CFR 266.20(b)). Moreover, as of March 1986, the Agency has only developed administrative and storage requirements for fuels derived from hazardous wastes; the technical standards for burning these fuels have not yet been proposed.)

Most recycling activities themselves currently are not subject to Subtitle C requirements. However, use constituting disposal (placement of a hazardous waste or a material derived from or otherwise containing a hazardous waste on the land) is subject to Subtitle C requirements under 40 CFR Parts 264 and 265, Subparts M and N (see page 1-18 for possible exceptions). In addition, burning of hazardous wastes or fuels derived from or otherwise containing a hazardous waste in boilers or industrial furnaces eventually will be subject to requirements currently being developed by EPA under 40 CFR Parts 264, 265, and 266, and currently is banned in all devices but industrial boilers and furances (see 40 CFR 266.31, as amended by the Federal Register of November 29, 1985).

#### Exemptions

Some materials, listed in Exhibit 6, are defined as solid wastes when recycled but currently are exempt from all RCRA Subtitle C requirements (40 CFR 261.6(a)(3)). These include scrap metals, reclaimed industrial alcohols, used oils recycled other than by burning, certain used batteries, certain waste-

derived fuels produced from petroleum refining hazardous wastes, and certain coke and coal tar wastes from the iron and steel industry.<sup>9/</sup>

Burden of Proof

Persons accumulating hazardous secondary materials not otherwise defined as wastes have the burden of proving that they are not accumulating materials speculatively; that is, that they are recycling sufficient amounts of secondary materials (50 FR 636). Absent such proof, materials stored prior to recycling will be presumed to be hazardous wastes. At a minimum, EPA expects those who accumulate potentially recyclable materials to maintain records for each class of material recycled in the same way. These records should indicate (1) the amount of secondary material that is on-hand at the beginning of the calendar year, (2) the amount of material added during the year, and (3) the amount remaining at the end of the year. Records customarily maintained, such as records of throughput for an industrial process, should be satisfactory for this purpose. In addition, names and addresses of recyclers receiving secondary materials should be

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<sup>9/</sup> EPA has proposed to list used oil as a hazardous waste (50 FR 49258) and to establish special management standards for used oil that is recycled (50 FR 49212). Prior to promulgation of these rules, only characteristic used oil to be burned as a fuel -- or fuel produced from used oil that exhibits a characteristic -- is subject to Subtitle C requirements. Used oil fuel that does not meet a specification for arsenic (5 ppm), cadmium (2 ppm), chromium (10 ppm), lead (100 ppm), flash point (100 degrees F), or total halogens (4,000 ppm) is subject to special standards under 40 CFR Part 266 Subpart E when burned for energy recovery. Furthermore, used oil containing more than 1,000 ppm total halogens is presumed to be mixed with listed hazardous waste, and is subject to all applicable Subtitle C requirements for hazardous waste fuel, unless the presumption of mixing can be successfully rebutted. If burned for energy recovery, used oil that meets the specification for used oil fuels is subject to limited requirements under 40 CFR 266. Used oil that exhibits a characteristic currently is exempt from Subtitle C requirements if recycled other than by burning for energy recovery.

maintained, as well as any other information that substantiates compliance with the minimum turnover rate (e.g., contracts or correspondence with a recycler).

In addition, persons accumulating hazardous secondary materials that they claim are not solid wastes because they are recycled in a particular manner have the burden of proving that they indeed recycle materials in the way claimed (50 FR 642). Although the regulations contain no formal recordkeeping requirement, persons who recycle potentially hazardous secondary materials must keep records or other means of substantiating a claim that they are not managing a solid waste. In addition, owners or operators of facilities claiming that they are engaged in recycling must show that they have the necessary equipment to do so, and that such equipment is operational. Absence of documentation not only would make it difficult or impossible to carry the burden of proof, but would itself be seen by EPA as evidence that the claimed recycling is a sham.

Finally, EPA considers certain characteristics of the recycling practice in question to determine when the practice constitutes legitimate recycling (50 FR 638). In general, practices will be considered disposal rather than use/reuse where the secondary material is ineffective (or only marginally effective) for the claimed use, where secondary materials are used in amounts in excess of the amount necessary for operating a process, where the secondary material is considerably less effective than the material it replaces, or where materials are not handled in a manner consistent with use as a substitute for raw materials or commercial products (e.g., when not stored or handled so as to prevent significant economic losses). For example:

- o For wastes incorporated into products to be placed on the ground (which may be eligible for an exemption from the requirements), the waste must contribute to the effectiveness of the product. Wastes used in a fertilizer must contain nutrients or micronutrients, and wastes used in cement must have pozzolanic properties.
- o To be eligible for reduced requirements for precious metals reclamation, wastes must contain precious metals in economically-recoverable quantities.

- o Burning of wastes in industrial furnaces would be deemed to be disposal rather than materials recovery if the materials recovery is economically insignificant or where the quantities of waste burned would provide materials in excess of what can feasibly be recovered and used.

#### **DETAILED DESCRIPTION OF REGULATED PRACTICES AND REGULATORY REQUIREMENTS**

This section provides detailed descriptions of recycling activities. It identifies wastes that are defined as solid (and potentially hazardous) wastes when recycled by each method, and lists the Subtitle C requirements that apply in each case. The following activities are discussed in separate subsections:

- o Use Constituting Disposal
- o Burning for Energy Recovery/Use to Produce Fuel
- o Reclamation

In addition, the final part of this section discusses speculative accumulation. These descriptions should be consulted to verify the user's conclusions about the regulatory status of a particular material.

##### **Use Constituting Disposal**

Use constituting disposal is defined as:

1. Applying materials to the land or placing them on the land in a manner constituting disposal;
2. Applying materials contained in a product to the land or placing them on the land in a manner constituting disposal (40 CFR 261.2(c)(1)).

Examples of such use include use as fill or cover material; use for structural support; use as a fertilizer; use as a soil conditioner or dust suppressor; or use in asphalt or building foundation materials. "Placement on the land" is construed broadly

also to include most types of placement in water (except where some type of chemical reaction occurs, such as use as a water conditioner) (50 FR 628).

As noted above, all hazardous secondary materials are considered solid wastes when applied to the land in these ways, except for listed commercial chemical products whose ordinary use involves application to the land (40 CFR 261.2(c)(1)). Therefore, hazardous waste generator (40 CFR Part 262), transporter (40 CFR Part 263), and storage requirements (40 CFR Parts 264 and 265, Subparts A through L) apply prior to use, and applicable land disposal requirements under 40 CFR Parts 264 and 265, Subparts M and N, apply to the activity itself.

Products that include listed hazardous wastes as ingredients -- i.e., waste-derived products -- are classified as solid and hazardous wastes when placed directly on the land for beneficial use, unless and until the product is formally delisted. Products that include characteristic hazardous wastes as ingredients (also considered waste-derived products) are classified as solid and hazardous wastes only if the product itself exhibits any of the hazardous waste characteristics (see 50 FR 627-628 and 40 CFR 261.3(c) and (d)). However, EPA has temporarily exempted waste-derived products placed on the land from regulation if the waste (a) has undergone a chemical reaction so as to become inseparable by physical means and (b) the resulting combined material is marketed to the general public as a commercial product. In addition, waste-derived fertilizers that are marketed to the general public are also temporarily exempted from regulation (40 CFR 266.20). Products derived from hazardous wastes in which the production process does not significantly alter the waste's chemical or biological character (e.g., where production involves simple mixing of wastes and other ingredients) are not eligible for the temporary exemption. Waste-derived products that are not marketed to the general public as a commercial product also are not exempt from regulation, even if their composition and potential use is identical to that of products on the commercial market. Although the specified waste-derived products are exempt from regulation, all applicable Subtitle C requirements still apply to the wastes before they are incorporated into the waste-derived product (50 FR 629).

Burning for Energy Recovery/  
Use to Produce Fuel

Under the Definition of Solid Waste, wastes may be deemed to be burned for energy recovery if they are burned (directly or as part of a waste-derived fuel) in boilers or industrial furnaces (40 CFR 261.2(c)(2)). These combustion devices are defined in 40 CFR 260.10 as follows:

- o Boilers - enclosed devices using controlled flame combustion with specified design and operating characteristics related to the recovery of energy; and
- o Industrial Furnaces - one of a specific list of devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy.

The list of devices defined as industrial furnaces is shown in Exhibit 7. Additional devices may be added to the list of industrial furnaces in the future.

Burning of wastes in industrial furnaces may also be undertaken solely to reclaim materials (see discussion of reclamation in the next section) or to dispose of materials. (EPA interprets any legitimate burning of wastes in boilers to be intended at least in part for energy recovery, since energy recovery is the primary purpose of boiler operations.) The rules applicable to burning for energy recovery apply for recycling in industrial furnaces, unless the burning is solely for recovery of materials (50 FR 630-631). Thus, characteristic sludges and by-products that generally are not subject to Subtitle C requirements if reclaimed will be subject to requirements when burned in boilers or industrial furnaces when energy recovery is also accomplished. Burning in devices other than boilers and industrial furnaces is regulated as incineration or thermal treatment under Subtitle C, and wastes destined for such burning are subject to full requirements under Subtitle C, even if recycling is intended.

As described in the previous section, all hazardous secondary materials are solid and hazardous wastes when burned directly as a fuel, or when processed or blended to produce a fuel. The only exceptions are commercial chemical products that

are originally intended for use as fuels, including off-specification fuels (e.g., natural gas pipeline condensate generated in the pipeline transmission of natural gas) that are burned for energy recovery (50 FR 630 and 40 CFR 261.2(c)(2)). In addition, used oils that are hazardous only because they exhibit a characteristic of hazardous wastes are subject to special standards in Part 266, Subpart E when used as fuels, and may be subject to additional regulation in the future.

EPA currently is developing, in two phases, regulations that will govern burning of wastes as fuels. On 29 November 1985, EPA promulgated a first set of rules that extend generator (Part 262), transporter (Part 263), and interim status storage requirements (Part 265) to fuels derived from solid and hazardous wastes not previously subject to Subtitle C requirements. The rule also establishes a rebuttable presumption that used oil containing more than 1,000 ppm total halogens is mixed with listed hazardous wastes, and therefore is subject to the same requirements as other hazardous wastes when burned as fuel. In addition, the rule prohibits the burning of hazardous waste fuel and contaminated used oil (used oil that does not meet specifications for arsenic, cadmium, chromium, lead, flash point and/or halogens) in non-industrial boilers. Finally, the rule imposes requirements for generators, marketers, and burners of used oil burned as fuel, including notification, use of a manifest or invoice, fuel analysis, and storage requirements.

In the second rule-making phase, EPA is developing permit standards for burning of used oil fuels, hazardous waste, and waste-derived fuels in boilers and industrial furnaces. (These rules will affect all burning of hazardous wastes in such devices, regardless of the purpose of burning.) The permit standards are scheduled for proposal in 1986, and will specify additional storage and administrative requirements and technical controls on burning.

#### Reclamation

Reclamation is defined as:

1. The regeneration of waste materials; or
2. The recovery of material with value from wastes (40 CFR 261.1(b)(4)).

Reclamation includes such activities as dewatering, ion exchange, distillation, and smelting. Simple collection (such as collection of solvent vapors) or the agglomeration of materials (e.g., in a sintering furnace) is not reclamation. Use of materials as feedstocks or ingredients (e.g., use of a material as a reactant in the production of a new product) also is not reclamation (50 FR 633).

Spent materials, scrap metals, listed sludges, and listed by-products are solid wastes when reclaimed (40 CFR 261.2(c)(3)).<sup>10/</sup> Prior to reclamation, these materials are subject to hazardous waste generator (40 CFR 262), transporter (40 CFR 263), and storage requirements (40 CFR 264 and 265, Subparts A through L). Residues derived from reclaiming listed spent materials, by-products and sludges are also listed hazardous wastes and are subject to Subtitle C regulation, unless and until they are delisted. Residues from the reclamation of characteristic spent materials are regulated as hazardous wastes if they also exhibit one of the characteristics of a hazardous waste. Reclamation processes themselves are not regulated (40 CFR 261.3(c) and (d)).

Certain types of materials recovery in industrial furnaces are not within the jurisdiction of RCRA, and materials that are defined as solid and hazardous wastes prior to such reclamation (and subject to storage and other applicable standards) may not be defined as solid wastes during the reclamation process. These are situations where the secondary material being reclaimed is indigenous to the process in which the industrial furnace is being used, for example, because the secondary material contains the same types and concentrations of constituents as the raw materials normally burned in the industrial furnace. Since the burning process itself is not currently subject to Subtitle C standards, the only practical implication of the difference in

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<sup>10/</sup> Although scrap metal that is reclaimed is defined as a solid waste, it is temporarily exempt from all RCRA hazardous waste requirements (40 CFR 261.6(a)(3)). Characteristic sludges and by-products may be subject to Subtitle C requirements if reclaimed in boilers or industrial furnaces, if some energy recovery occurs as well (see 50 FR 630-631). As described above, these wastes are subject to requirements when burned as fuels (40 CFR 261.2(c)(2)).

status of these wastes prior to and during burning is the status of residuals from burning. A residue from burning an indigenous material that is burned solely for materials recovery in an industrial furnace would not be subject to Subtitle C requirements, unless the residue itself exhibits one or more of the characteristics of hazardous waste. For example, a listed process residue from a smelting furnace that is resmelted in the same furnace would not be a solid waste at the point of resmelting, although it would be subject to Subtitle C requirements if stored prior to being resmelted. (See 50 FR 49167, November 29, 1985.)

The products of reclamation are generally not wastes and are not subject to RCRA unless:

1. They are burned as fuel or placed on the land;
2. They are not ordinarily considered to be commercial products (e.g., reclaimed wastewater); or
3. Reclamation processing is minimal or does not complete the recovery process (50 FR 634).11/

As described above, listed sludges, listed by-products, and listed or characteristic spent materials that are reclaimed are solid wastes and subject to Subtitle C generator requirements; if stored or transported, these materials are also subject to Subtitle C storage and transport requirements. Some wastes, however, are subject to reduced requirements when reclaimed:

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11/ Products of reclamation that are burned as fuel or placed on the land are not solid wastes if they are commercial chemical products ordinarily produced for these uses (50 FR 634). In addition, the requirement that the recovery process be complete before a product of reclamation is no longer considered a waste does not apply to the reclamation of characteristic by-products or sludges; the intermediate products of reclamation of these materials are not solid wastes since the sludges and by-products themselves are not solid wastes.

- o Materials from which precious metals are recovered are subject to the limited provisions under 40 CFR 266 Subpart F (i.e., notification, manifest, and recordkeeping requirements only). To qualify, the reclamation process must recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or some combination of these metals from the waste in question.
- o Generators, transporters, and collectors of spent lead-acid batteries who do not also recover the lead from the batteries are not subject to the hazardous waste regulations. Reclaimers of lead from these batteries must notify and, if they store the batteries prior to reclamation, comply with the storage facility requirements of 40 CFR 264 and 265 Subparts A through L, with the exception of waste characterization (264.14 and 265.23) and manifest-related requirements (264.71-72, 265.71-72). The limited provisions applicable to persons who reclaim spent lead-acid batteries are summarized under 40 CFR 266 Subpart G.

Spent lead acid batteries that are to be reclaimed are excluded from the calculation of the 100 kg/month exemption level (40 CFR 261.5) because they are not subject to regulation in the hands of the generator (50 FR 14218). Precious metal wastes, however, must be included in the calculation of the exemption (50 FR 652 and 50 FR 14218).

#### Speculative Accumulation

Any hazardous secondary material not otherwise defined as a solid waste when recycled is considered a waste if it is accumulated before recycling, unless the person accumulating the material can show that (1) the material is potentially recyclable and there is a feasible means of recycling the material, and (2) at least 75 percent of the accumulated material is recycled in

one calendar year (40 CFR 261.2(c)(4)).<sup>12/</sup> The only exceptions to this rule are hazardous commercial chemical products (listed or characteristic) which are not considered wastes when stored prior to recycling (40 CFR 261.2(c)(4)). Generator (40 CFR 262), transporter (40 CFR 263), and storage requirements (40 CFR 264 and 265, Subparts A through L) apply to speculatively accumulated wastes.

Turnover is determined by calculating the amount of waste generated and removed over the course of the calendar year. This may lead to discrepancies between turnover calculated under this section and the volume reported under subtitle C. Turnover does not affect subtitle C reporting requirements except to the extent that subtitle C reporting requires certain wastes to be included in turnover calculations. Turnover is determined by calculating the amount of waste generated and removed over the course of the calendar year. This may lead to discrepancies between turnover calculated under this section and the volume reported under subtitle C. Turnover does not affect subtitle C reporting requirements except to the extent that subtitle C reporting requires certain wastes to be included in turnover calculations.

Turnover is determined by calculating the amount of waste generated and removed over the course of the calendar year. This may lead to discrepancies between turnover calculated under this section and the volume reported under subtitle C. Turnover does not affect subtitle C reporting requirements except to the extent that subtitle C reporting requires certain wastes to be included in turnover calculations.

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<sup>12/</sup> The 75 percent turnover rate may be calculated on the basis of volume or weight, and applies to waste accumulated during a calendar year beginning January 1. The 75 percent turnover requirement applies to all materials of the same class (materials of the same type generated from the same process) destined to be recycled in the same way (50 FR 635 and 40 CFR 261.1(c)(8)).

Exhibit 1

Description of Activity:

6. Is there a feasible means for recycling the waste?

[ ] Yes      [ ] no

If Yes, go on to question (6a).  
If No, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[ ] Yes      [ ] no

If Yes, go on to question (7).  
If No, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] Yes      [ ] no

If Yes, go on to question (7).  
If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] Yes      [ ] no

If Yes, go on to question (7).  
If No, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] Yes      [ ] no

If Yes, go on to question (7a).  
If No, the material is not a solid waste.

If No, go on to question (8).

8. Does the activity serve a beneficial use?

[ ] Yes      [ ] no

If Yes, go on to question (6).  
If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

If Yes, go on to question (8a).  
If No, go on to question (9).

Questions:

1. Is the material that is recycled a secondary material?

[ ] Yes      [ ] no

If Yes, go on to question (2).  
If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.31-32 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[ ] Yes      [ ] no

If Yes, go on to question (3).  
If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] Yes      [ ] no

If Yes, the material is not a solid waste.  
If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] Yes      [ ] no

If Yes, the material is a solid waste. See applicable regulations, below.

If No, go on to question (5).

5. Does the activity serve a beneficial use?

[ ] Yes      [ ] no

If Yes, go on to question (6).  
If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused?

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials).

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33).

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the process except from regulation (see the list in Exhibit 6)?

[ ] yes      [ ] no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2.

Discussion:

Exhibit 2

EXAMPLES OF WASTES BY TYPE

Spent Materials:

spent solvents  
spent activated carbon \*  
spent catalysts  
spent acids  
spent pickle liquor  
spent foundry sands  
spent lead-acid batteries  
spent potliners  
wastewater

Sludges:

bag house dusts  
wastewater treatment sludges  
flue dusts

By-products:

distillation column bottoms  
mining slags  
drosses

Scrap Metal:

bars  
turnings  
rods  
sheet  
wire  
radiators  
scrap automobiles  
railroad box cars

Commercial Chemicals:

Commercial chemical products or manufacturing intermediates listed in 40 CFR 261.33(e) or (f);

Off-specification variants of the above substances;

Containers or inner liners from containers used to hold the above substances (unless they have been cleansed in the appropriate manner);

Any residue or contaminated debris from the cleanup of a spill of any of the above substances.

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17. Dr. S. N. BHATTACHARYA  
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BHATTACHARYA, DR. S. N.

**Exhibit 2**  
**(continued)**

**EXAMPLES OF WASTES BY TYPE**

**Listed Wastes by Category:** \*\*

<b><u>Spent Materials</u></b>	<b><u>Sludges</u></b>	<b><u>By-Products</u></b>
F001	F006	F008 K034
F002	F012	F010 K036
F003	F019	F024 K039
F004	K001	K008 K042
F005	K002	K009 K043
F007	K003	K010 K049
F009	K004	K011 K050
F011	K005	K013 K052
K021	K006	K014 K060
K028	K007	K015 K071
K033	K032	K016 K073
K038	K035	K017 K083
K045	K037	K018 K085
K047	K040	K019 K087
K062	K041	K020 K093
K086	K044	K022 K094
K098	K046	K023 K095
K099	K048	K024 K096
K104	K051	K025 K097
K111	K061	K026 K101
K117	K069	K027 K102
K118	K084	K029 K103
	K100	K030 K105
	K106	K031 K112
		K113
		K114
		K115
		K116
		K136

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- \* Spent activated carbon is a sludge if it is generated by pollution control activities.
  - \*\* This exhibit does not include inherently waste-like materials (wastes with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026 and F028). In addition, it does not include listed commercial chemical products (all P- and U-wastes listed under 40 CFR 261.33, plus EPA Waste No. F027), which are a separate physical category. Currently, there are no listed wastes in the scrap metals category.

3. 31.1968  
(baud 1200)

197° 78' E 2070m T 48 S 3673.63

Species	Mean	Min
TOM	88.9%	76.0%
SOM	0.0%	51.1%
COL	8.50%	0.0%
CAR	6.00%	1.00%
CER	0.00%	5.00%
SLM	0.10%	0.00%
UPL	1.10%	0.00%
TRM	0.10%	0.00%
ODM	0.10%	0.00%
ITM	0.10%	0.00%
CTM	0.10%	0.00%
DMT	0.10%	0.00%
PAM	0.10%	0.00%
TMK	0.00%	0.00%
CLO	0.10%	1.00%
ANM	0.00%	0.00%
DPM	0.10%	0.00%
AMM	0.10%	0.00%
DMF	0.00%	0.00%
COLA	0.10%	0.00%
COLB	0.00%	0.00%
COLP	0.00%	0.00%
COLR	0.00%	0.00%
COLG	0.00%	0.00%
COLY	0.00%	0.00%
COLW	0.00%	0.00%
COLH	0.00%	0.00%
COLV	0.00%	0.00%
COLX	0.00%	0.00%
COLZ	0.00%	0.00%

Species richness and abundance at 197° 78' E 2070m T 48 S 3673.63  
Availability from "old" data

Mean ± 1 S.D. = 21.5 ± 6.9. Mean ± 1 S.D. = 7.6% ± 3.0%. Mean ± 1 S.D. = 0.082 ± 0.043. Mean ± 1 S.D. = 0.050 ± 0.025. Mean ± 1 S.D. = 0.024 ± 0.012. Mean ± 1 S.D. = 0.017 ± 0.007. Mean ± 1 S.D. = 0.011 ± 0.005. Mean ± 1 S.D. = 0.007 ± 0.004. Mean ± 1 S.D. = 0.004 ± 0.002. Mean ± 1 S.D. = 0.002 ± 0.001. Mean ± 1 S.D. = 0.001 ± 0.001. Mean ± 1 S.D. = 0.000 ± 0.000. Mean ± 1 S.D. = 0.000 ± 0.000.

Exhibit 3  
TYPES OF SECONDARY MATERIALS DEFINED AS  
SOLID AND HAZARDOUS WASTES WHEN RECYCLED

Type of Material	Type of Recycling			
	Use Constituting Disposal	Burning for Energy Recovery, or Use to Produce A Fuel	Reclamation	Speculative Accumulation
Spent Materials (both listed and nonlisted/characteristic)	Yes	Yes	Yes	Yes
Sludges (listed)	Yes	Yes	Yes	Yes
Sludges (non-listed/characteristic)	Yes	Yes	No	Yes
By-products (listed)	Yes	Yes	Yes	Yes
By-products (non-listed/characteristic)	Yes	Yes	No	Yes
Commercial Chemical Products (both listed and nonlisted/characteristic; not ordinarily applied to the land or burned as fuels)	Yes	Yes	No	No
Scrap Metal	Yes	Yes	Yes	Yes

Yes : Defined as a solid waste  
No : Not defined as a solid waste

Exhibit 4

**INHERENTLY WASTE-LIKE MATERIALS**

Inherently waste-like materials are specified in greater detail in 40 CFR 261.2(d).

As of December 1985, they include:

- o Wastes from the production or manufacturing use of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives (FO20);
- o Wastes from the production or manufacturing use of pentachlorophenol, or of intermediates used to produce its derivatives (FO21), unless used as an ingredient to make a product at the site of generation;
- o Wastes from the manufacturing use of tetra-, penta-, or hexachlorobenzenes under alkaline conditions (FO22);
- o Wastes from the production of materials on equipment previously used for the production or manufacturing use of tri- and tetrachlorophenols (FO23);
- o Wastes from the production of materials on equipment previously used for the manufacturing use of tetra-, penta-, or hexachlorobenzene under alkaline conditions (FO26);
- o Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 (FO28).

**Exhibit 5**  
**EXCLUDED MATERIALS**

The following materials are excluded from the definition of solid waste (40 CFR 261.4(a)):

- o Domestic sewage and mixtures of domestic sewage and industrial wastes;
- o Industrial NPDES point source wastewater discharges;
- o Irrigation return flows;
- o Source, special nuclear or by-product material as defined by the Atomic Energy Act;
- o Materials subjected to in-situ mining techniques which are not removed from the ground;
- o Pulping liquors (i.e., black liquors) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless they are speculatively accumulated;
- o Spent sulfuric acid used to produce virgin sulfuric acid, unless it is speculatively accumulated.

## Exhibit 6

### EXEMPTED MATERIALS

The following materials are defined as solid wastes, but are specifically exempt from RCRA Subtitle C requirements (40 CFR 261.6):

- o Industrial ethyl alcohol that is reclaimed;
- o Used batteries (or used battery cells) returned to a battery manufacturer for regeneration;
- o Used oil that exhibits one or more of the characteristics of hazardous wastes but is recycled in some manner other than being burned for energy recovery;
- o Scrap metal;
- o Fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices;
- o Oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, if it is to be refined along with normal process streams at a petroleum refining facility;
- o Coke and coal tar from the iron and steel industry that contains hazardous waste from the iron and steel production process;

Exhibit 6  
(continued)

**EXEMPTED MATERIALS**

- Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under 40 CFR 266.40(e) and so long as no other hazardous wastes are used to produce the hazardous waste fuel;
- Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the oil fuel specification under 40 CFR 266.40(e);
- Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under 40 CFR 266.40(e); and
- Petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which such wastes were generated, unless the resulting coke product exhibits one or more characteristics of hazardous waste.

3. 3. 1968  
(bunyidam)

UZBEKISTAN GOVERNMENT

proposed the most favorable legal regime. Considering the interests of both citizens and non-citizens in the country, particularly the foreign citizens who have been granted the right to residence and work in the country, the Government has decided to grant the right to residence and work in the country to foreign citizens and non-citizens who have been granted the right to residence and work in the country by the Government of the Republic of Uzbekistan.

Accordingly, the Government of the Republic of Uzbekistan has decided to grant the right to residence and work in the country to foreign citizens and non-citizens who have been granted the right to residence and work in the country by the Government of the Republic of Uzbekistan.

Therefore, a circular entitled "On the Right to Residence and Work in the Republic of Uzbekistan" is issued, specifying the conditions for obtaining the right to residence and work in the Republic of Uzbekistan.

According to the circular, the right to residence and work in the Republic of Uzbekistan is granted to foreign citizens and non-citizens who have been granted the right to residence and work in the country by the Government of the Republic of Uzbekistan.

**Exhibit 7**

**DEVICES REGULATED AS INDUSTRIAL FURNACES  
(listed in 40 CFR 260.10)**

**Cement kilns**

**Lime kilns**

**Aggregate kilns**

**Phosphate kilns**

**Coke ovens**

**Blast furnaces**

**Smelting, melting and refining furnaces\***

**Titanium dioxide chloride process oxidation reactors**

**Methane reforming furnaces**

**Pulping liquor recovery furnaces**

**Combustion devices used in recovery of sulfur values from spent sulfuric acid**

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\* This category includes pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces.

## Література

засновано на публікації відповідно  
до цього виду та його висновків.

Історичні джерела

~~Environmental Quality Improvement and Assistance under Solid Waste Disposal  
Program~~

~~and other businesses are ready to take on large-scale  
recycling activities and others yet?~~

~~to further clarify and enhance existing  
regulations regarding~~

~~and for new solid waste recycling activities, a basic  
background information~~

**EXAMPLES**

**CHAPTER 2**

This chapter presents examples that illustrate the application of the solid waste definition rule to specific recycling practices. The examples follow the format described in Chapter 1 and are organized by recycling activity and types of hazardous materials. There are five sections on types of recycling activities:

1. Use constituting disposal;
2. Burning wastes or waste-derived fuels for energy recovery, or using wastes to produce a fuel;
3. Reclamation; and
4. Use or reuse of secondary materials as ingredients or feedstocks in production processes, as effective substitutes for commercial products, or in closed-loop recycling processes.

In addition, a fifth section ("Other") provides examples of the following cases:

- o Activities that do not constitute solid waste recycling;
- o Recycling of materials excluded from the definition of solid waste under 40 CFR 261.4 (b); and
- o Recycling of inherently waste-like materials.

Within these sections, the examples appear in the following order:

1. Spent materials (that are contaminated such that they serve their original purpose);
2. Sludges (residues from pollution control or treatment operations);
3. By-products (residual materials that are not in the other categories);
4. Scrap metals (bits and pieces of metal parts);
5. Mixed materials (mixtures of the above materials);
6. Materials that are not secondary materials; and
7. Secondary materials that are not hazardous.

The index contained in Chapter 3 provides additional assistance in locating examples of particular recycling practices.

We emphasize that all statements regarding the regulatory status of secondary materials or recycling practices described in this document are based strictly on the examples illustrated. Slight changes in any given example could alter its regulatory status. Therefore, users of this manual who wish to draw conclusions about the regulatory status of a particular recycling activity should be certain that the examples relied upon are completely analogous to the case in question. Further, the reader should not assume that descriptions of the wastes as listed, characteristic, or non-hazardous in the examples would apply to all similar wastes. These classifications are stated as assumptions in the examples, and each material of interest to the reader should be evaluated to determine whether it falls within the scope of a listing or whether it exhibits one of the characteristics of a hazardous waste.

USE CONSTITUTING DISPOSAL - SPENT MATERIAL 1

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc (which does not exhibit any hazardous waste characteristics) is then used in a fertiliser that also does not exhibit any hazardous waste characteristics. The recycler uses the fertiliser on his own land but does not market it to the general public.

What is the status of the etching solution?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If Yes, go on to question (2).

If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 OR exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If Yes, go on to question (3).

If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If Yes, the material is not a solid waste.

If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If Yes, the material is a solid waste. See applicable regulations, below.

If No, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If Yes, go on to question (6).

If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If Yes, go on to question (6a).

If No, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If Yes, go on to question (7).

If No, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If Yes, go on to question (7).

If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If Yes, go on to question (7).

If No, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If Yes, the material is not a solid waste. If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If Yes, go on to question (8a).

If No, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.31 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of material).

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.31?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent etching solution is subject to requirements under 40 CFR 262. Transporters of the spent etching solution are subject to requirements under 40 CFR 263. Generators recycling the spent etching solution on-site, off-site recyclers and other parties handling the spent etching solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent etching solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the spent etching solution must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because material with value -- the zinc -- is recovered from the etching solution, the activity is classified as reclamation. However, the reclamation step is part of a recycling process that ends with the zinc being placed on the ground. Because the ultimate step is use constituting disposal, the etching solution is a solid waste and is subject to RCRA Subtitle C regulation. (Note: Because it is a hazardous spent material that is reclaimed, the etching solution would be a solid waste even if the ultimate use of the zinc was not placement on the land.)

See Also:  
Other - Non-Secondary Material 7  
Other - Non-Hazardous Secondary Material 3  
Other - Non-Hazardous Secondary Material 4  
Reclamation - Spent Material 13

USE CONSTITUTING DISPOSAL - SPENT MATERIAL 2

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

Description of Activity:

Sulfuric acid from metal finishing operations (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in fertilizers that are marketed to the general public. The fertilizers themselves do not exhibit any hazardous waste characteristics.

What is the status of the sulfuric acid?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no  
If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

8. Is the material a commercial chemical product that exhibits one or more hazardous waste characteristics or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused?

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclassification. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste except from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the sulfuric acid is subject to requirements under 40 CFR 261. Transporters of the sulfuric acid are subject to requirements under 40 CFR 263. Generators recycling acid on-site, off-site recyclers and other parties handling the acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sulfuric acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the sulfuric acid is incorporated into a product that is applied to the ground, this activity is classified as use constituting disposal. Hence the acids are solid wastes, and are subject to RCRA Subtitle C regulation.

See Also:  
Use Constituting Disposal - Non-Hazardous Secondary Material

USE CONSTITUTING DISPOSAL - SLUDGE 1

- Description of Activity:  
Toxic metal-containing sludges from the chemical industry (sludges exhibiting the characteristic of EP-toxicity) go through a recycling process that results in a soil-like solid that can be used for landfill cover material, levees, berms, or fertiliser. This product does not exhibit hazardous waste characteristics.
- What is the status of the sludges?
- Questions:
1. Is the material that is recycled a secondary material?  
[X] yes      [ ] no  
If Yes, go on to question (2).  
If No, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-35 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
[ ] yes      [ ] no  
If Yes, go on to question (3).  
If No, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
[ ] yes      [X] no  
If Yes, the material is not a solid waste.  
If No, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?  
[ ] yes      [X] no  
If Yes, the material is a solid waste. See applicable regulations, below.  
If No, go on to question (5).
  5. Does the activity serve a beneficial use?  
[X] yes      [ ] no  
If Yes, go on to question (6).  
If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
6. Is there a feasible means for recycling the waste?  
[X] yes      [ ] no  
If Yes, go on to question (6a).  
If No, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
[X] yes      [ ] no  
If Yes, go on to question (7).  
If No, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
[ ] yes      [ ] no  
If Yes, go on to question (7).  
If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
[X] yes      [ ] no  
If Yes, go on to question (7).  
If No, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
[ ] yes      [X] no  
If Yes, the material is not a solid waste.  
If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
[ ] yes      [ ] no  
If Yes, go on to question (8a).  
If No, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual, and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the sludges is subject to requirements under CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, or site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulative under 40 CFR 262.3. Residues from recycling the sludges must be managed as hazardous wastes if they themselves exhibit all hazardous waste characteristics.

Discussion:

Although the material is recycled, the ultimate destination of the sludges is to be placed on the ground for beneficial use. However, the activity is use constituting disposal, even though the product is reclamation does not exhibit hazardous waste characteristics. Materials that are used in a manner constituting disposal are solid wastes, and are subject to RCRA subtitle C regulation.

See Also:

Other - Non-Hazardous Secondary Material 2

USE CONSTITUTING DISPOSAL - SLUDGE 2

6. Is there a feasible means for recycling the waste?
- [X] yes      [ ] no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?
- [X] yes      [ ] no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?
- [ ] yes      [ ] no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations below.
7. Is the material placed on the ground or used in a product that is placed on the ground?
- [X] yes      [ ] no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?
- [ ] yes      [ ] no  
If yes, go on to question (7a).  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?
- [ ] yes      [ ] no  
If yes, go on to question (8a).  
If no, go on to question (9).
9. If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are recycled for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the flue dusts?

Questions:

1. Is the material that is recycled a secondary material?
- [X] yes      [ ] no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)
- [X] yes      [ ] no  
If yes, the material is not a solid waste.  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?
- [ ] yes      [X] no  
If yes, the material is not a solid waste. See applicable regulations, below.
4. Is the material inherently waste-like (see the list in Exhibit 4)?
- [ ] yes      [X] no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?
- [X] yes      [ ] no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

8. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials).

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the flue dusts is subject to requirements under 40 CFR 262. Transporters of the flue dusts are subject to requirements under 40 CFR 263. Generators recycling the flue dusts on-site, off-site recyclers and other parties handling the flue dusts prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the flue dusts for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process used to reclaim the metals from the flue dusts is not regulated. Residues from recycling the flue dusts must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

When reclaimed, a characteristic sludge ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the material being placed on the ground. Because the ultimate step is use constituting disposal, the material is a solid waste and is subject to RCRA Subtitle C regulation.

See Also:

Use Constituting Disposal - Sludge 3  
Use Constituting Disposal - Sludge 4  
Use Constituting Disposal - Sludge 5

**USE CONSTITUTING DISPOSAL - SLUDGE 3**

**Description of Activity:**

From metal refining operations (a sludge exhibiting true dusts from metals exhibiting EP-toxicity) are reclaimed for their metals the characteristic of EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the recovered metals?

**Questions:**

1. Is the material that is recycled a secondary material?
  - [X] yes [ ] no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24 and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(d).)  
[X] yes [ ] no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
[X] yes [ ] no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?  
[X] yes [ ] no  
See applicable  
If yes, the material is a solid waste.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?  
[X] yes [ ] no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no.

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?
  - [X] yes [ ] no  
If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?
  - [X] yes [ ] no  
If yes, go on to question (7).  
If no, go on to question (8).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations below.

7. Is the material placed on the ground or used in a product that is placed on the ground?
  - [X] yes [ ] no  
If yes, go on to question (7a).  
If no, go on to question (8).  
If no, the material is a commercial chemical product, that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?
    - [X] yes [ ] no  
If yes, go on to question (7a).  
If no, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?
  - [X] yes [ ] no  
If yes, go on to question (8a).  
If no, go on to question (9).

Using 100% biomass, etc., the following practices are illegal under existing law. If you practice any of the following, contact the Environmental Quality Control Board, the Office

9a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

If any of the above apply, the activity is use or reuse, and the material is not a solid waste. If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a). If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below. If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Requirements:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the metals (the person who recycles the flu dust to recover the metals) is subject to requirements under 40 CFR 263. Persons who manufacture fertiliser off-site fertiliser manufacturers and other parties handling the metals prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the metals for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of incorporating the metals into the fertiliser is not itself regulated. Any residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

The metals are a product of the reclamation of a characteristic sludge. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal or (b) are burned as a fuel. In this case, the recycling process ends with the material being placed on the ground. Because the ultimate step is use constituting disposal, and the metals exhibit a hazardous waste characteristic, the metals are a solid waste and are subject to RCRA Subtitle C regulation.

See Also:

Use Constituting Disposal - Sludge 2  
Use Constituting Disposal - Sludge 4  
Use Constituting Disposal - Sludge 5

**USE CONSTITUTING DISPOSAL - SLUDGE 4**

**Description of Activity:**

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertiliser. The fertiliser, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the fertiliser?

**Questions:**

1. Is the material that is recycled a secondary material?

yes       no

If Yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If Yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If Yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If Yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If Yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If Yes, go on to question (6a).

If No, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If Yes, go on to question (7).

If No, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If Yes, go on to question (7).

If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If Yes, go on to question (7a).

If No, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If Yes, the material is not a solid waste.

If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If Yes, go on to question (8a).

If No, go on to question (9).

8a. Is the material used as a fuel or used to produce a fuel?

yes       no

If Yes, go on to question (9).

If No, go on to question (9).

6a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
 as an effective substitute for commercial products in a particular function or application, or

- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste except from regulation (see the list in Exhibit 6)

Yes       No

If yes, the material is regulated. See item (2), below.  
If no, the material is not regulated.  
The fertiliser is a waste-derived product that exhibits hazardous waste characteristics. Because it is hazardous and is placed on the land, use of the fertiliser is use constituting disposal. Therefore the fertiliser is a solid waste. However, because the fertiliser sold for use by the general public, it is currently exempt from RC Subtitle C regulation (see 40 CFR Part 265.20(b)).

See Also:

Use Constituting Disposal - Sludge 2  
Use Constituting Disposal - Sludge 3  
Use Constituting Disposal - Sludge 5

**USER CONSTITUTING DISPOSAL - SLUDGE 5**

6. Is there a feasible means for recycling the waste?

**Description of Activity:**

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used by the refiner as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is not marketed to the general public, but is used by the refiner as a fertilizer on land the refiner owns.

What is the status of the fertilizer?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).

If no, go on to question (6c).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7a).

If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, go on to question (7a).

If no, the material is not a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material used as a fuel or used to produce a fuel?

If yes, go on to question (8a).

If no, go on to question (9).

9a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclassification (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one or more of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, Please review the definitions or activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Requirements:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated.  
2. The generator of the fertiliser (i.e., the refiner) is subject to requirements under 40 CFR 262. Transporters of the fertiliser are subject to requirements under 40 CFR 263. The fertiliser manufacturer who uses the fertiliser on-site or off-site, and other parties handling the fertiliser prior to application to the land may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. The generator who stores the fertiliser for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Persons who apply the fertiliser are subject to all applicable regulations governing use constituting disposal under 40 CFR 264 and 265 subparts A through N. Regulations applicable to recyclable materials used in a manner constituting disposal are summarized under 40 CFR 266 Subpart C.

Discussion:

The fertiliser is a waste-derived product that exhibits a hazardous waste characteristic. Because it is hazardous and placed on the land, use of the fertiliser is use constituting disposal. Therefore, the fertiliser is a solid waste. Because it is not sold for use by the general public, it is subject to RCRA Subtitle D regulation.

See Also:  
Use Constituting Disposal - Sludge 2  
Use Constituting Disposal - Sludge 3  
Use Constituting Disposal - Sludge 4

**USER CONSTITUTING DISPOSAL - SLUDGE 6**

Description of Activity:

A sludge containing heavy metals such as zinc, cadmium, copper, nickel, and lead from a municipal wastewater treatment plant (a sludge exhibiting the characteristic of EP-toxicity) is sold to the public to be applied to cropland as a fertilizer.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (7a).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (7a).  
See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste except from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

Because the sludge is applied to the ground, this activity is classified as use constituting disposal. Therefore, the sludge is defined as a solid and hazardous waste. However, the sludge is not subject to RCRA Subtitle C regulation, since EPA has exempted from regulation materials sold as commercial fertilisers to the general public (see 40 CFR Part 266.20(b)).

**USE CONSTITUTING DISPOSAL - BY-PRODUCT 1**

**Description of Activity:**

Bronx brass skinning (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the brass skinning?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. In the material specifically excluded from the definition of solid waste under 40 CFR 261.3(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7a).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, go on to question (7a).  
If no, the material is not a solid waste. If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

9. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

9a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a Closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Requirements:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the gross skinnings is subject to requirements under 40 CFR 262. Transporters of the gross skinnings are subject to requirements under 40 CFR 263. Generators recycling the gross skinnings on-site, off-site recyclers and other parties handling the gross skinnings prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the gross skinnings for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the gross skinnings must be managed as hazardous wastes if they themselves exhibit any hazardous characteristics.

Discussion:

Separation of the brass gross skinnings into oxides and metals is a reclamation process. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the oxides being placed on the ground. Because the ultimate use of the oxides will involve use constituting disposal, the brass gross skinnings are solid wastes and are subject to RCRA Subtitle C regulation.

See Also:

Reclamation - By-Product 1  
Use Constituting Disposal - By-Product 2  
Use Constituting Disposal - By-Product 3

**USE CONSTITUTING DISPOSAL - BY-PRODUCT 2**

6. Is there a feasible means for recycling the waste?

**Description of Activity:**

Brass dress skinnings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertiliser. The fertilizer, which also exhibits EP-toxicity, is sold to the general public [c]. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the fertiliser?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-21, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7a).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

9. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

10. Is the material a solid waste?

If yes, go on to question (6).  
If no, go on to question (9).

¶4. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste except from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

The fertiliser is a waste-derived product that exhibits a hazardous waste characteristic. Because it is hazardous and is placed on the land, use of the fertiliser is defined as use constituting disposal. Therefore, the fertiliser is a solid waste. However, because the fertiliser is sold for use by the general public, it is exempt from RCRA Subtitle C regulation (see 40 CFR Part 266.20(b)).

See Also:

Reclamation - By-Product 1  
Use Constituting Disposal - By-Product 1  
Use Constituting Disposal - By-Product 3

**USE CONSTITUTING DISPOSAL - BY-PRODUCT 3**

- Description of Activity:
- Process dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.
- What is the status of the oxides?
- Questions:
1. Is the material that is recycled a secondary material?
 

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)
 

[ ] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?
 

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?
 

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?
 

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
6. Is there a feasible means for recycling the waste?
 

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

  - 6a. Is at least 75 percent of the material recycled within one calendar year?
 

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).
  - 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?
 

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is accumulative, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?
 

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?
 

[X] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
- 8. Is the material used as a fuel or used to produce a fuel?
 

[ ] yes      [ ] no

If yes, go on to question (9a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes     no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes     no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions or activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes     no
- If yes, the material is not regulated.  
If no, the material is regulated.
2. The generator of the oxides (the person who separates the oxides from the metals) is subject to requirements under 40 CFR 262. Transporters of the oxides are subject to requirements under 40 CFR 263. Generators recycling the oxides on-site, off-site recyclers and other parties handling the oxides prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the oxides for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of incorporating the oxides into the fertilizer is not itself regulated. Residues from recycling the oxides must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Separation of the brass dross skinnings into oxides and metals is a reclamation process. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the oxides being placed on the ground. Because the ultimate use of the oxides will involve use constituting disposal, and the oxides exhibit a hazardous waste characteristic, the oxides are solid wastes and are subject to RCRA subtitle C regulation.

See Also:

Reclamation - By-Product 1  
Use Constituting Disposal - By-Product 1  
Use Constituting Disposal - By-Product 2

USE CONSTITUTING DISPOSAL - BY-PRODUCT 4

Description of Activity:

Amorphous polypropylene residues (by-products exhibiting the characteristic of ignitability) go through a processor that extracts residual solvents for any reuse as degreasers. The polymeric residues, which do not exhibit hazardous waste characteristics, are blended with asphaltic materials to make (a more crack-resistant) asphalt for sale. The asphalt also does not exhibit any hazardous waste characteristics.

What is the status of the original polypropylene residues?

Question:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is accumulative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, go on to question (7a).  
If no, go on to question (8).

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      / [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- [ ] as an effective substitute for commercial products in a particular function or application, or
- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- [ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
[ ] yes [x] no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the polypropylene residues is subject to requirements under 40 CFR 262. Transporters of the polypropylene are subject to requirements under 40 CFR 263. Generators recycling the polypropylene on-site, off-site recyclers and other parties handling the polypropylene prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the polypropylene for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the polypropylene must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

The processor who separates the residual solvents and the polymeric residues from the polypropylene residues is reclaiming this material. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, because a product of the reclamation process is incorporated into a product that is placed on the ground, this activity starts a chain that results in use constituting disposal. Hence the polypropylene is a solid waste, and is subject to RCRA Subtitle C regulation.

See Also:  
Other - Non-Secondary Material 13  
Other - Non-Hazardous Secondary Material 6  
Other - Non-Hazardous Secondary Material 7

UFT CONSTITUTING DISPOSAL - NON-HAZARDOUS SECONDARY MATERIAL 1

6. Is there a feasible means for recycling the waste?  yes  no.

Description of Activity:

Sulfuric acid from metal finishing operations (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in fertilizers that are marketed to the general public. The fertilizers themselves do not exhibit hazardous waste characteristics.

What is the status of the fertilizer?

Question:

1. Is the material that is recycled a secondary material?  yes  no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  yes  no

If yes, go on to Question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  yes  no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?  yes  no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?  yes  no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  yes  no.
- If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  yes  no
- If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  yes  no
- If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?  yes  no
- If yes, go on to question (7).  
If no, go on to question (6).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  yes  no
- If yes, the material is not a solid waste. See applicable regulations, below.
- 7b. Is the material a solid waste. See applicable regulations, below.  yes  no
- If yes, go on to question (8a).  
If no, go on to question (9).
8. Is the material used as a fuel or used to produce a fuel?  yes  no
- If yes, go on to question (8a).  
If no, go on to question (9).

8a. In the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.

If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?
- yes       no
- If yes, the activity is reclamation. Go on to question (10a).
- If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.
- If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

Discussion:

The fertilizer is derived from a characteristic hazardous waste but is not itself a solid waste because it does not exhibit any hazardous waste characteristics. Therefore, the fertilizer is not subject to RCRA Subtitle C regulation.

See Also: Use Constituting Disposal - Spent Material 2

**ENERGY RECOVERY - SPENT MATERIAL 1**

**Description of Activity:**

Industrial ethyl alcohol that has been contaminated by oils, perfumes, or other substances added by a variety of manufacturing practices (a spent material exhibiting the characteristic of ignitability) is returned to the ethyl alcohol manufacturer, where it is distilled and regenerated into new industrial ethyl alcohol. The distillation residue (which also exhibits ignitability) is burned as a fuel.

What is the status of the distillation residue?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-21, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste.  
See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] Yes      [ ] no

If Yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If Yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [X] no

If Yes, go on to question (7a).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If Yes, go on to question (7a).  
If no, the material is not a solid waste. If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] Yes      [ ] no

If Yes, go on to question (8a).  
If no, go on to question (9).

[X] yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

10a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.

If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (excluding commercial chemicals),

a hazardous waste listed under 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)  
 yes       no  
If Yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the distillation residue (i.e., the ethyl alcohol manufacturer) is subject to requirements under 40 CFR 262 Transporters of the distillation residue are subject to requirements under 40 CFR 263. Generators recycling the distillation residue on-site, off-site recyclers and other parties handling the distillation residue prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts I through L. Generators who store the distillation residue for more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Hazardous residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics. Burners of hazardous fuel are only subject to storage and transportation requirements under 40 CFR 266 the actual burning of these wastes is currently exempt from regulation.

#### Discussion:

Hazardous residues from recycling practices are considered secondary materials and potential solid wastes. Hazardous secondary materials that are burned as a fuel are considered solid wastes and are subject to RCRA Subtitle C regulation.

See also: Reclamation - Spent Material 6

**ENERGY RECOVERY - SPENT MATERIAL 2**

**Description of Activity:**

Hazardous spent solvents from the organic chemicals manufacturing industries (producing basic organic chemicals, organic intermediates, plasticizers, etc.) are burned as fuels in an industrial boiler.

What is the status of the spent solvents?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste.

See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).

If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).

If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, the material is not a solid waste.

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
[ ] as an effective substitute for commercial products in a particular function or application, or

- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or  
[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual, and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- [ ] yes      [X] no
- If Yes, the material is not regulated.  
If No, the material is regulated. See item (2), below.
2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Burners of hazardous wastes are only subject to the storage and transportation requirements under 40 CFR 266; the actual burning of these wastes is currently exempt from regulation.

Discussion:

Both listed and characteristic hazardous wastes that are burned as fuels are solid wastes and thus are subject to RCRA Subtitle C regulation.

**ENERGY RECOVERY - SPENT MATERIAL 3**

Description of Activity:

Hydrocarbons, spent solvents (heavy alcohols, ketones and hydrocarbons), spent materials exhibiting the characteristic of ignitability, and heavy residuals (by-products exhibiting the characteristic of EP-toxicity) from a chemical manufacturing plant are physically mixed into a product that is sold as marine fuel. The fuel exhibits the characteristic of ignitability.

What is the status of the spent solvents?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 4.)?

yes       no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).

If no, the practice is speculative accumulation. If no, the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (7).

If no, the practice is speculative accumulation. If no, the material is a solid waste. See applicable regulations, below.

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, the material is not a solid waste. If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

- a commercial chemical product that exhibits hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of mixing the spent solvents to produce the fuel is exempt from regulation.

Discussion:

Characteristic spent materials that are burned as fuels or used to produce a fuel are solid wastes and are subject to RCRA Subtitle C regulation.

See Also:  
Energy Recovery - By-Product<sup>3</sup>  
Energy Recovery - Mixed Material 1

**ENERGY RECOVERY - BY-PRODUCT 1**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Degasser tank tar sludge from coking processes (a by-product listed under EPA Hazardous Waste No. K087) is substituted for a raw material -- coal -- in coke ovens, where it is converted into coke. The coke then is used in blast furnaces as a fuel and as an ingredient (providing carbon) in the production of steel.

What is the status of the decanter tank tar sludge?

Questions:

1. Is the material that is recycled a secondary material?

[X] Yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] Yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] Yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] Yes      [X] no

If yes, the material is a solid waste. See applicable regulations below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] Yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

6. Is there a feasible means for recycling the waste?

[X] Yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] Yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] Yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] Yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] Yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

9. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. In the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the decanter tank tar sludge is subject to requirements under 40 CFR 262. Transporters of the decanter sludge are subject to requirements under 40 CFR 263. Generators recycling the decanter sludge on-site, off-site recyclers and other parties handling the decanter sludge prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the decanter sludge for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Any residues from recycling the sludge must be managed as hazardous wastes.

#### Discussion:

The decanter tank tar sludge is directly reused as a feedstock in the coking process, but the coke that is produced is burned as a fuel. Although coke is used as both a fuel and a feedstock in blast furnaces, the energy recovery function takes precedence. Because the ultimate activity is burning for energy recovery, the decanter tank tar sludges are solid wastes, and are subject to RCRA Subtitle C regulation.

See Also:

Energy Recovery - By-Product 2

**ENERGY RECOVERY - BY-PRODUCT 2**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Counter tank tar sludge from coking processes (a by-product listed under EPA Hazardous Waste No. K087) is substituted for a raw material -- coal -- in coke ovens, where it is converted into coke. The coke then is used in blast furnaces as a fuel and as an ingredient (providing carbon) in the production of steel.

What is the status of the coke?

Questions:

1. Is the material that is recycled a secondary material?

[X] Yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] Yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] Yes      [X] No

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] Yes      [X] No

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] Yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] Yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] Yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] Yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] Yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] Yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

8.a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

Yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

Yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

(10a). Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (excluding commercial chemicals),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated. See item (2), below.  
If no, the material is regulated.

Discussion:

The coke is derived from a listed by-product and is an intermediate material in a recycling process that ends with burning for energy recovery (although coke is used as both a fuel and a feedstock in blast furnaces, the energy recovery function takes precedence). Therefore, the coke is a solid waste. However, waste-derived coke from the iron and steel industry that contains hazardous waste from the iron and steel production process currently is exempt from RCRA Subtitle C regulation (see 40 CFR 261.6(a)(3)(vii)).

See also:

Energy Recovery - By Product 1

**ENERGY RECOVERY - BY-PRODUCT 3**

6. Is there a feasible means for recycling the waste?

Description of Activity:

"Non-halogenated spent solvents (heavy alcohols, ketones and hydrocarbons, spent materials exhibiting the characteristic of ignitability) and heavy residuals (by-products exhibiting the characteristic of EP-toxicity) from a chemical manufacturing plant are physically mixed into a product that is sold as marine fuel. The fuel exhibits the characteristic of ignitability.

What is the status of the heavy residuals?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).

If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).

If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.

If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.

If No, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).

If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If Yes, go on to question (6a).

If No, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).

If No, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).

If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (8).

If No, go on to question (9).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, go on to question (8).

If No, the material is not a solid waste. If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If Yes, go on to question (8a).

If No, go on to question (9).

- 10b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?
- yes       no
- If yes, the material is not a solid waste. If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.
9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?
- If any of the above apply, the activity is use or reuse, and the material is not a solid waste. If none of the above apply, go on to question (10).
10. Is the material regenerated or are materials with value recovered from the original material?
- yes       no
- If yes, the activity is reclamation. Go on to question (10a). If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.
- 10a. Is the material
- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- a scrap metal?
- If any of the above apply, the material is a solid waste. See applicable regulations, below. If none of the above apply, go on to question (10b).

Discussion:

If any of the above apply, the material is not a solid waste. Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

See Also: Energy Recovery - Spent Material 3  
Energy Recovery - Mixed Material 1

ENERGY RECOVERY - BY-PRODUCT 4

6. Is there a feasible means for recycling the waste?       Yes       no  
If Yes, go on to question (6a).  
If No, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?       yes       no  
If Yes, go on to question (7).  
If No, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?       yes       no  
If Yes, go on to question (7).  
If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations below.
7. Is the material placed on the ground or used in a product that is placed on the ground?       yes       no  
If Yes, go on to question (7a).  
If No, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?       yes       no  
If Yes, the material is not a solid waste.  
If No, go on to question (8).
8. Is the material used as a fuel or used to produce a fuel?       yes       no  
If Yes, go on to question (9).  
If No, go on to question (9).
- Description of Activity:  
Decanter tank tar sludge from coking operations (a by-product listed under EPA Hazardous Waste No. R087) is burned as a fuel.  
What is the status of the decanter tank tar sludge?
- Questions:
1. Is the material that is recycled a secondary material?  
 Yes       no  
If Yes, go on to question (2).  
If No, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 200.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes       no  
If Yes, go on to question (3).  
If No, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes       no  
If Yes, the material is not a solid waste.  
If No, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes       no  
If Yes, the material is a solid waste. See applicable regulations, below.  
If No, go on to question (5).
  5. Does the activity serve a beneficial use?  
 yes       no  
If Yes, go on to question (6).  
If No, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

8a: Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the decanter tank tar sludge is subject to requirements under 40 CFR 262. Transporters of the decanter sludge are subject to requirements under 40 CFR 263. Generators and other parties handling the decanter sludge prior to recycling the decanter sludge on-site, off-site recyclers and be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the decanter sludge for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Burners of the decanter sludge are only subject to storage and transportation requirements under 40 CFR 266; the actual burning of these wastes is currently exempt from regulation.

Discussion:

Listed by-products that are burned for energy recovery are solid wastes and are subject to RCRA Subtitle C regulation.

**ENERGY RECOVERY - MIXED MATERIAL 1**

**Description of Activity:**

Non-halogenated spent solvents (heavy alcohols, ketones and hydrocarbons), spent materials exhibiting the characteristic of ignitability, and heavy residuals (by-products exhibiting the characteristic of Ep-toxicity) from a chemical manufacturing plant are physically mixed into a product that is sold as marine fuel. The fuel exhibits the characteristic of ignitability.

What is the status of the marine fuel?

**Questions:**

1. Is the material that is recycled a secondary material?
 

[X] yes      [ ] no  
 If Yes, go on to question (2).  
 If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)
 

[X] yes      [ ] no  
 If Yes, go on to question (3).  
 If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?
 

[ ] yes      [X] no  
 If Yes, the material is not a solid waste.  
 If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?
 

[ ] yes      [X] no  
 If Yes, the material is a solid waste. See applicable regulations, below.  
 If no, go on to question (5).
  5. Does the activity serve a beneficial use?
 

[X] yes      [ ] no  
 If Yes, go on to question (6).  
 If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
6. Is there a feasible means for recycling the waste?
 

[X] yes      [ ] no  
 If Yes, go on to question (7).  
 If no, go on to question (6b).
 
    - 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?
 

[ ] yes      [ ] no  
 If Yes, go on to question (7).  
 If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
    7. Is the material placed on the ground or used in a product that is placed on the ground?
 

[X] yes      [ ] no  
 If Yes, go on to question (8).  
 If no, go on to question (9).

8.1. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?
- If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?
- yes       no
- If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.
- Applicable Regulations:
1. Is the waste exempt from regulation (see the list in Exhibit 6)?

- yes       no
- If Yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the fuel (the person who mixes the solvents and residuals) is subject to requirements under 40 CFR 262. Transporters of the fuel are subject to requirements under 40 CFR 263. Generators recycling the fuel on-site, off-site recyclers and other parties handling the fuel prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the fuel for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The actual burning of these fuels is currently exempt from regulation.

Discussion:

The fuel is the product of the mixing of characteristic hazardous wastes and itself exhibits a hazardous waste characteristic. Therefore, the fuel is a solid and hazardous waste and is subject to RCRA Subtitle C transportation and storage regulation.

See Also:

Energy Recovery - Spent Material 3  
Energy Recovery - By-Product 3

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

**ENERGY RECOVERY - NON-SECONDARY MATERIAL 1**

6. Is there a feasible means for recycling the waste?

**Description of Activity:**

Pipeline condensate from natural gas transmission accumulates in the pipeline as it is generated. When pipelines are cleaned, the condensate (which exhibits the characteristic of ignitability) is stored in above-ground steel tanks until it is sold to firms using it as a fuel.

What is the status of the pipeline condensate?

**Questions:**

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (8).  
If no, go on to question (9).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

11. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
[ ] yes      [ ] no  
If yes, the material is not regulated. If no, the material is regulated. See item (2), below.

Discussion:

Pipeline condensate is off-specification fuel. Off-specification fuels that are burned for energy recovery are not solid wastes, and are not subject to RCRA Subtitle C regulation.

**RECLAMATION - SPENT MATERIAL 1**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Spent lead-acid batteries (spent materials exhibiting the characteristics of corrosivity and EP-toxicity) are split by battery characters, and their contents (lead and oxides) are stored in a pile. The lead and oxides, which still exhibit EP-toxicity, are then shipped to a secondary lead smelter to recover the lead.

What is the status of the lead-acid batteries?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (8).  
If no, go on to question (9).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, go on to question (8).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [X] no

If Yes, go on to question (8a).  
If no, go on to question (9).

a. In the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. In the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. Owners or operators of facilities that store spent lead-acid batteries before reclaiming them are subject to notification requirements under Section 3010 of RCRA and to storage facility requirements under 40 CFR 264 and 265 Subparts A through I (waste analysis requirements under 40 CFR 264.13 and 265.11, and manifest requirements under 40 CFR 264.71, 265.71, and 265.72 do not apply, however). Persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them are not subject to regulation under Parts 262 through 266, and also are not subject to Section 3010 of RCRA. Requirements applicable to spent lead-acid batteries being reclaimed are summarized under 40 CFR 266 Subpart G.

Discussion:

Spent lead-acid batteries are defined as spent materials. Because material with value -- the lead -- is recovered from the batteries, the activity is classified as reclamation. EPA has issued a set of regulations stating that when reclaimed, lead-acid batteries are solid wastes but are subject to a reduced set of requirements. The batteries are regulated when stored by the person who is reclaiming them (i.e., the battery cracker) but are not regulated when handled by persons other than reclaimers prior to the reclamation.

See Also: Reclamation - Spent Material 2

**RECLAMATION - SPENT MATERIAL 2**

6. Is there a feasible means for recycling the waste?

**Description of Activity:**

spent lead-acid batteries (spent materials exhibiting the characteristics of corrosivity and EP-toxicity) are split by battery cracking, and their contents (lead and oxides) are stored in a pile. The lead and oxides, which still exhibit EP-toxicity, are then shipped to a secondary lead smelter to recover the lead.

What is the status of the used batteries?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If Yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If Yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of Solid Waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If Yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If Yes, the material is a solid waste.  
See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If Yes, go on to question (7).

If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes [ ] no

If Yes, go on to question (8a).

If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes [ ] no

If Yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes [ ] no

If Yes, go on to question (8a).

If no, go on to question (9).

10. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

Yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
 as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

Yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or  
 a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the lead and oxides (the battery cracker) is subject to requirements under 40 CFR 262. Transporters of the lead and oxides are subject to requirements under 40 CFR 263. Generators recycling the lead and oxides on-site, off-site recyclers and other parties handling the lead and oxides prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the lead and oxides for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling the lead and oxides must be managed as hazardous wastes if they themselves exhibit any hazardous characteristics.

Discussion:

Because battery cracking does not complete the reclamation process, the lead and oxides, like the batteries are characteristic spent materials. Smelting of these materials to recover lead constitutes reclamation of a characteristic spent material. Thus, the lead and oxides are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Materials 1

**RECLAMATION - SPENT MATERIAL 3**

**Description of Activity:**

Used batteries from consumers (spent materials exhibiting the characteristic of EP-toxicity) are returned to a battery manufacturer, who adds electrolytes and replaces bad cells to regenerate the batteries. The restored batteries can then be reused.

What is the status of the used batteries?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [ ] no

If yes, go on to question (8).  
If no, go on to question (9).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
 as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or  
 a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated. See item (2), below.

Discussion:

Because the batteries are regenerated by the manufacturer, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes. However, EPA has issued an exemption stating that when they are returned to the manufacturer for regeneration, used batteries are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated (see 40 CFR 261.6(a)(3)(ii)).

## RECLAMATION - SPENT MATERIAL 4

6. Is there a feasible means for recycling the waste?

Description of Activity:

spent chromic acid from metal finishing plating baths (a spent material listed under EPA Hazardous Waste No. F007) is neutralized and goes through an ion exchange process that removes the chromium. The acid is regenerated and returned to the metal finishing plating bath. The iron exchange resin (a listed sludge -- the residue derived from the treatment of a listed waste) is treated with sodium hydroxide solution to remove any impurities. The resin is then returned to the ion exchange column.

What is the status of the contaminated ion exchange resin?

Question:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).

If no, go on to question (6b).

6b.. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7a).

If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, go on to question (7a).

If no, go on to question (8).

If yes, the material is not a solid waste. If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).

If no, go on to question (9).

10a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused  
 as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
 as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a). If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the spent chronic acid is subject to requirements under 40 CFR 262. Transporters of the spent chronic acid are subject to requirements under 40 CFR 263. Generators recycling the spent chronic acid on-site, off-site recyclers and other parties handling the spent chronic acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent chronic acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent chronic acid (such as the resin) must be managed as hazardous wastes.

Discussion:

Because the acid is regenerated, the process is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation. (The regenerated acid is no longer a waste, but a product.)

See Also: Reclamation - Sludge <sup>3</sup>  
Other - Non-Secondary Material <sup>9</sup>  
Other - Non-Secondary Material <sup>12</sup>

RECLAMATION - SPENT MATERIAL 5

6. Is there a feasible means for recycling the waste?

Description of Activity:

Spent toluene that was used as a solvent in a manufacturing process. (A spent material listed under EPA Hazardous Waste No. F005) is adsorbed in an on-site carbon adsorption system. After the adsorption and desorption processes, the solvent is decanted from water and reused in the original process.

What is the status of the spent toluene?

Questions:

1. Is the material that is recycled a secondary material?

[X] Yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] Yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] Yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] Yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] Yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?
- [X] Yes      [ ] no
- If yes, go on to question (6b).
- If no, go on to question (7).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?
- [X] Yes      [ ] no
- If yes, go on to question (7).
- If no, go on to question (6b).

7. Is the material placed on the ground or used in a product that is placed on the ground?
- [X] Yes      [ ] no
- If yes, go on to question (7).
- If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?
- [X] Yes      [ ] no
- If yes, go on to question (7a).
- If no, go on to question (8).

8. Is the material used as a fuel or used to produce a fuel?
- [X] Yes      [X] no
- If yes, go on to question (8a).
- If no, go on to question (9).

9a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated.
2. The generator of the spent toluene is subject to requirements under 40 CFR 262. Transporters of the spent toluene are subject to requirements under 40 CFR 263. Generators recycling the spent toluene on-site, off-site recyclers and other parties handling the spent toluene prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent toluene for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the spent toluene must be managed as hazardous wastes.

Discussion:

Because the toluene is recovered, the process is classified as reclamation. Listed spent materials that are reclaimed are defined as solid wastes and are subject to RCRA Subtitle C regulation.

## RECLAMATION - SPENT MATERIAL 6

6. Is there a feasible means for recycling the waste?

Description of Activity:

Industrial ethyl alcohol that has been contaminated by oils, perfumes, or other substances added by a variety of manufacturing operations (a spent material exhibiting the characteristic of ignitability) is returned to the ethyl alcohol manufacturer where it is distilled and regenerated into new industrial ethyl alcohol. The distillation residue (which also exhibits ignitability) is burned as a fuel.

What is the status of the original contaminated ethyl alcohol?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6). If no, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (8).

If no, go on to question (9).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, go on to question (8a).

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (9).

If no, go on to question (9).

If yes, go on to question (9).

If no, go on to question (9).

- 8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?
- yes     no
- If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations (regeneration or recovery of materials), below.
9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?
- If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).
10. Is the material regenerated or are materials with value recovered from the original material?
- Yes     no
- If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- Yes     no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

Because the ethyl alcohol is regenerated, the process is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes. However, because reclamation of industrial ethyl alcohol is regulated by the Bureau of Alcohol, Tobacco and Firearms, EPA has exempted the material from RCRA Subtitle C regulation.

See Also:

Energy Recovery - Spent Material 1

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- a scrap metal?
- If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

**RECLAMATION - SPENT MATERIAL 7**

**Description of Activity:**

Spent pickle liquor (a spent material listed under EPA Hazardous Waste No. K062) is placed in an impoundment to evaporate water and recover concentrated ferrous chloride, which is used as an ingredient to produce ferric chloride.

What is the status of the spent pickle liquor?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If Yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (7a).

If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, the material is not a solid waste. If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [X] no

If Yes, go on to question (8a).

If no, go on to question (9).

8A. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the spent pickle liquor is subject to requirements under 40 CFR 262. Transporters of the spent pickle liquor are subject to requirements under 40 CFR 263. Generators recycling the spent pickle liquor on-site, off-site recyclers and other parties handling the spent pickle liquor prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent pickle liquor for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process -- the surface impoundment itself -- is not regulated. Any residues from recycling must be managed as hazardous wastes.

Discussion:

The evaporation that occurs in the surface impoundment is a reclamation step. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

**RECLAMATION - SPENT MATERIAL 8**

**Description of Activity:**

A spent Ziegler Natta polymerization catalyst containing aluminum trichloride and vanadium trichloride from a chemicals manufacturing plant (a spent material exhibiting the characteristic of corrosivity) is processed to recover vanadium for commercial applications.

What is the status of the spent catalyst?

**Questioning:**

1. Is the material that is recycled a secondary material?  
[X] Yes      [ ] no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
[X] Yes      [ ] no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
[ ] Yes      [X] No  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
[ ] Yes      [X] No  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
[X] Yes      [ ] no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
6. Is there a feasible means for recycling the waste?  
[X] Yes      [ ] no  
If yes, go on to question (6a).  
If no, go on to question (6b).  
6a. Is at least 75 percent of the material recycled within one calendar year?  
[X] Yes      [ ] no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
[ ] Yes      [ ] no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
[ ] Yes      [X] No  
If yes, go on to question (8a).  
If no, go on to question (8).  
7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
[ ] Yes      [ ] no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
[ ] Yes      [X] No  
If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as fuel?

yes       no

If Yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product, that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or  
 a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.31?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent catalyst is subject to requirement under 40 CFR 262. Transporters of the catalyst are subject to requirements under 40 CFR 263. Generators recycling the catalyst on-site, off-site recyclers and other parties handling the catalyst prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the catalyst for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is exempt from regulation. Residues derived from recycling the catalyst must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because material with value -- vanadium -- is recovered from the catalyst, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes, and are thus subject to RCRA Subtitle C regulation.

**RECLAMATION - SPENT MATERIAL 9**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Spent contaminated solvents from the manufacture of printed circuit boards (spent materials listed under EPA Hazardous Waste Nos. F001-F005) are regenerated through activated carbon adsorbers. The resulting liquid is distilled to recover the solvents, which are returned to their original use.

What is the status of the contaminated solvents prior to regeneration by carbon adsorption and distillation?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, the go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, the material is not a solid waste.

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If Yes, go on to question (8a).

If no, go on to question (9).

RECLAMATION - SPENT MATERIAL 9  
QUESTIONNAIRE

8. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10b).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent solvents is subject to requirement under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent solvents must be managed as hazardous wastes.

Discussion:

Because the solvents are regenerated by carbon adsorption and distillation, the activity is defined as reclamation. Listed open materials that are regenerated are solid wastes and thus are subject to RCRA Subtitle C regulation.

**RECLAMATION - SPENT MATERIAL 10**

**Description of Activity:**

Contaminated methylene chloride that was used as a solvent in industrial applications (a halogenated spent material listed under EPA Hazardous Waste No. P002) is regenerated through distillation and reused in the original process.

What is the status of the contaminated solvent?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (9a).  
If no, go on to question (9).

9a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a byproduct that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste except from regulation (see the list in Exhibit 1)?
- [ ] Yes      [X] No
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the contaminated methylene chloride is subject to requirements under 40 CFR 262. Transporters of contaminated methylene chloride are subject to requirements under 40 CFR 263. Generators recycling the methylene chloride on-site off-site recyclers and other parties handling the methyl chloride prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through G. Generators who store the methylene chloride for no more than days in tanks or containers prior to recycling are subject to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the methylene chloride must be managed hazardous wastes.

Discussion:

Because the contaminated methylene chloride is regenerated, the activity is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 11

Description of Activity:

Spent acid from a brass mill (a spent material exhibiting the characteristics of corrosivity and EP-toxicity) is reclaimed for its copper content. The copper is then reused as an ingredient in the production of brass. The regenerated acid is returned to its original use.

What is the status of the spent acid?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If Yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If Yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [ ] no

If Yes, go on to question (8).  
If no, go on to question (9).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If Yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If Yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a hazardous waste under 40 CFR 261.33?

If Yes, go on to question (8b).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the waste acid is subject to requirements under 40 CFR 262. Transporters of the spent acid are subject to requirements under 40 CFR 263. Generators recycling the spent acid on-site, off-site recyclers and other parties handling the spent acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues from recycling must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the spent acid is regenerated, and material with value -- copper -- is recovered, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

See Also:

Other - Non-Secondary Materials 6

**RECLAMATION - SPENT MATERIAL 12**

**Description of Activity:**

Spent carbon from decolorization operations in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds (a spent material listed under EPA Hazardous Waste No. K102) is regenerated and reused in the original process.

What is the status of the spent carbon?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [ ] no

If yes, go on to question (7a).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

84. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?
- yes       no
- If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See regulations, below.

9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?
- If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).
10. Is the material regenerated or are materials with value recovered from the original material?
- yes       no
- If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

- either a sludge or a by-product that exhibits one or the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.
- If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent carbon is subject to requirement under 40 CFR 262. Transporters of the spent carbon are subject to requirements under 40 CFR 263. Generators recycling the spent carbon prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent carbon for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the spent carbon must be managed as hazardous wastes.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- a scrap metal?
- If any of the above apply, the material is a solid waste. See applicable regulations, below.
- If none of the above apply, go on to question (10b).

Discussion:

Because the spent carbon is regenerated prior to reuse, the activity is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 13

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc is then used as an ingredient in paint manufacture.

What is the status of the acid etching solution?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product, that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none or the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit c)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the acid etching solution is subject to requirements under 40 CFR 262. Transporters of the acid etching solution are subject to requirements under 40 CFR 263. Generators recycling the acid etching solution on-site, off-site recyclers and other parties handling the acid etching solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the acid etching solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling the acid etching solution must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because material with value -- the zinc -- is reclaimed from the waste, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

See Also:

Use Constituting Disposal - Spent Material 1  
Other - Non-Secondary Material 7  
Other - Non-Hazardous Secondary Material 3  
Other - Non-Hazardous Secondary Material 4

**RECLAMATION - SPENT MATERIAL 14**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Spent pickle liquor (a spent material listed under EPA Hazardous Waste No. K062) is regenerated by a liquid-liquid extraction process, and reused in steel pickling operations.

What is the status of the spent pickle liquor?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6). If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] Yes [ ] No

If yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] Yes [ ] No

If yes, go on to question (7).

If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes [ ] no

If yes, the material is not a solid waste. If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] Yes [ ] No

If yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused  
[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent pickle liquor is subject to requirements under 40 CFR 262. Transporters of the spent pickle liquor are subject to requirements under 40 CFR 263. Generators recycling the spent pickle liquor on-site, off-site recyclers and other parties handling the spent pickle liquor prior to recycling may be subject to storage facility requirements under 40 CFR 265 Subparts A through L. Generators who store the spent pickle liquor for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent pickle liquor must be managed as hazardous wastes.

Discussion:

Because the pickle liquor is regenerated prior to reuse, the activity is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle regulation.

RECLAMATION - SPENT MATERIAL 15

Description of Activity:

Sixty bright dipping solution -- a phosphoric acid/nitric acid solution -- (a spent material exhibiting the characteristic of corrosivity) goes through an ion exchange process. Aluminum is recovered from the resin (which is EP-toxic) and is treated with sulfuric acid to produce aluminum sulfate. The liquid (which also exhibits corrosivity) is further evaporated and recondensed to remove impurities, and the purified acid is reused in the bright dipping process.

What is the status of the spent bright dipping solution?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If Yes, go on to question (2).

If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If Yes, go on to question (3).

If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If Yes, the material is not a solid waste.

If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If Yes, the material is a solid waste. See applicable regulations, below.

If No, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If Yes, go on to question (6).

If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If Yes, go on to question (6a).

If No, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If Yes, go on to question (7).

If No, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If Yes, go on to question (7).

If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If Yes, go on to question (7a).

If No, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If Yes, go on to question (7a).

If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If Yes, go on to question (8a).

If No, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused  
 as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
 as an effective substitute for commercial products in a particular function or application, or  
 as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answer, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under VFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or  
 a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answer, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent bright dipping solution is subject to requirements under 40 CFR 262. Transporters of the spent bright dipping solution are subject to requirements under 40 CFR 263. Generators recycling the spent bright dipping solution on-site, off-site recyclers and other parties handling the spent bright dipping solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the spent bright dipping solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the spent bright dipping solution must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

The initial ion exchange process is a reclamation step. Characteristic spent materials that are reclaimed are solid wastes, and are thus subject to RCRA subtitle C regulation.

See Also:

Reclamation - Spent Material 16

Reclamation - Spent Material 17

RECLAMATION - SPENT MATERIAL 16

Description of Activity:

Saint bright dipping solution -- a phosphoric acid/nitric acid solution -- (a spent material exhibiting the characteristic of corrosivity) goes through an ion exchange process. Aluminum is recovered from the resin (which is EP-toxic) and is treated with sulfuric acid to produce aluminum sulfate. The liquid (which also exhibits corrosivity) is further evaporated and recompressed to remove impurities, and the purified acid is reused in the bright dipping process.

What is the status of the corrosive liquid that must be evaporated and recompressed before reuse?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).

If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).

If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.

If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.

If No, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).

If No, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no;

If Yes, go on to question (6a).

If No, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).

If No, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).

If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (7a).

If No, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, the material is not a solid waste.

If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If Yes, go on to question (8a).

If No, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one or the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the process exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the liquid is subject to requirements under 40 CFR 262. Transporters of the liquid are subject to requirement under 40 CFR 263. Generators recycling the liquid on-site, off-site recyclers and other parties handling the liquid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the liquid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

The liquid is a product of the reclamation of a characteristic spent material. Such materials are not solid wastes themselves unless they exhibit a hazardous characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel or (c) must be further reclaimed before they can be reused. In this case the liquid exhibits corrosivity, and further reclamation steps evaporation and recondensation -- are required before the liquid can be reused. Thus the liquids are solid wastes and therefore are subject to RCRA Subtitle C regulation.

#### See Also:

Reclamation - Spent Material 15  
Reclamation - Spent Material 17

RECLAMATION - SPENT MATERIAL 17

Description of Activity:

Spent bright dipping solution -- a phosphoric acid/nitric acid solution -- (a spent material exhibiting the characteristic of corrosivity) goes through an ion exchange process. Aluminum is recovered from the resin (which is EP-toxic), and is treated with sulfuric acid to produce aluminum sulfate. The liquid (which also exhibits corrosivity) is further evaporated and recondensed to remove impurities, and the purified acid is reused in the bright dipping process.

What is the status of the resin prior to being reclaimed?

Questions:

1. Is the material that is recycled a secondary material?
 

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4 (b).)
 

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?
 

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?
 

[X] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?
 

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
6. Is there a feasible means for recycling the waste?
 

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

10b. Is the material

- either a sludge or a by-product that exhibits one or the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

- If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

- If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.
9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

- yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If Yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the resin is subject to requirements under 40 CFR 262. Transporters of the resin are subject to requirement under 40 CFR 263. Generators recycling the resin on-site, off-site recyclers and other parties handling the resin prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the resin for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

The resin is a residue derived from the reclamation of a characteristic spent material. Such residues are solid wastes if they themselves exhibit a hazardous characteristic. In this case, the resin (which exhibits EP-toxicity) is further reclassified for its aluminum content, which is used in the production of aluminum sulfate. Because the resin is hazardous, it is a solid waste and is subject to RCRA Subtitle C regulation.

See also: Reclamation - Spent Material 15  
              Reclamation - Spent Material 16

**RECLAMATION - SPENT MATERIAL 18**

**Description of Activity:**

Spent solvents contaminated by inks used in the printing and publishing (graphic arts) industry (spent materials listed under EPA Hazardous Waste No. K086) are recovered in carbon adsorption systems, regenerated and returned to their original use.

What is the status of the spent solvents?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4 (b).)

[X] yes      [ ] no \*

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes

[ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes

[ ] no

If yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes

[ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes

[ ] no

If yes, go on to question (8).

If no, go on to question (9).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes

[ ] no

If yes, the material is not a solid waste.

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes

[ ] no

If yes, go on to question (8a).

If no, go on to question (9).

6a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
 a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
 a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to carbon adsorption may be subject to storage facility requirements under 40 CFR 264 and 265. Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent solvents must be managed as hazardous wastes.

#### Discussion:

Because the solvents are regenerated, the process is classified as reclamation. Listed spent materials that are reclaimed are defined as solid wastes and are thus subject to RCRA Subtitle C regulation.

**RECLAMATION - SPENT MATERIAL 19**

**Description of Activity:**

A spent cyanide plating bath solution from electroplating operations (a spent material listed under EPA Hazardous Waste No. F007) goes through an evaporation process to separate its liquid and solid constituents. The liquids are purified in activated carbon beds, yielding water, which is recycled to the rinsing operations. The solids are directly recycled to the plating operations.

What is the status of the spent cyanide plating bath?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed. (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste except from regulation (see the list in Exhibit 6)?

yes

no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the spent cyanide plating bath is subject to requirements under 40 CFR 262. Transporters of the spent cyanide plating bath are subject to requirements under 40 CFR 263. Generators recycling the spent cyanide plating baths on-site, off-site recyclers and other parties handling the spent cyanide plating baths prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent cyanide plating bath for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.3. The reclamation process itself is not regulated. Any residues derived from recycling the spent cyanide plating baths must be managed as hazardous wastes.

Discussion:

Since evaporation of the plating bath solution separates the liquid and solid constituents for recovery and reuse, the evaporation process constitutes reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

See also:

Other - Non-Secondary &  
Reclamation - Spent Material 20

**RECLAMATION - SPENT MATERIAL 20**

**Description of Activity:**

A spent cyanide plating bath solution from electroplating operations (a spent material listed under EPA Hazardous Waste No. F007) goes through an evaporation process to separate its liquid and solid constituents. The liquids are purified in activated carbon beds, yielding water, which is recycled to the rinsing operations. The solids are directly recycled to the plating operations.

What is the status of the liquid materials that must be purified before they are recycled to the rinsing operations?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [ ] no

If yes, go on to question (8).  
If no, go on to question (9).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste. If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a). If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33);
- [ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below. If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a by-product that exhibits one or the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- [ ] yes      [X] no
- If yes, the material is not regulated. If no, the material is regulated. See item (2), below.
2. The generator of the liquids is subject to requirements under 40 CFR 262. Transporters of the liquids are subject to requirements under 40 CFR 263. Generators recycling the liquids on-site, off-site recyclers and other parties handling the liquids prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the liquids for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the liquids must be managed as hazardous wastes.

Discussion:

The liquids are a product of the reclamation of a listed hazardous waste. Such products are not solid wastes themselves unless they (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the liquids thus must go through activated carbon adsorption before the purified water is recycled to the rinsing operations. Purification of the liquids constitutes further reclamation. Therefore, the liquids are a solid waste and are subject to RCRA Subtitle C regulation.

See also: Other - Non-Secondary Material & Reclamation - Spent Material 19

**RECLAMATION - SPENT MATERIAL 21**

6. Is there a feasible means for recycling the waste?

**Description of Activity:**

Giant solvents from scouring and degreasing operations in the wool industry, contaminated with lanolin and other greases, (spent materials listed under EPA Hazardous Waste Nos. F001-P005) are distilled and reused in the original process.

What is the status of the spent solvents?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

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8b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. IS the material regenerated or are materials with recovered from the original material?

[X] Yes      [ ] no

If Yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes      [X] no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to distillation may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent solvents must be managed as hazardous wastes.

Discussion:

Because the solvents are regenerated through distillation, the process is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

## RECLAMATION - SPENT MATERIAL 22

Description of Activity:

Spent acetone used in cleaning processes (a spent material listed under EPA Hazardous Waste No. F003) is redistilled in an acetone recovery machine and reused for cleanup.

What is the status of the spent acetone?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (7a).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
  - yes       no
2. The generator of the spent acetone is subject to requirements under 40 CFR 262. Transporters of the acetone are subject to requirements under 40 CFR 263. Generators recycling the acetone on-site, off-site recyclers and other parties handling the acetone prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the acetone for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the acetone must be managed as hazardous wastes.

Discussion:

Because the acetone is regenerated, the process is defined as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 23

Description of Activity:

Plating bath rinsewaters from copper and zinc electroplating operations (spent materials exhibiting the characteristic of EP-toxicity) are concentrated in a reverse osmosis system and an evaporator. The distillate, which does not exhibit hazardous characteristics, is recycled as process water. The concentrate, which exhibits the characteristic of EP-toxicity, is recycled to the plating baths.

What is the status of the plating bath rinsewaters?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[X] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

- If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If Yes, go on to question (8a).

If no, go on to question (9).

9. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

n. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
  - yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the plating bath rinsewater is subject to requirements under 40 CFR 262. Transporters of the rinsewater are subject to requirements under 40 CFR 263. Generators recycling the rinsewater on-site, off-site recyclers and other parties handling the rinsewater prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the rinsewater for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the rinsewater must be managed as hazardous wastes, if they themselves exhibit any hazardous characteristics.

Discussion:

The reverse osmosis and evaporation processes are reclamation steps. Characteristic spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 14

**RECLAMATION - SPENT MATERIAL 24**

Description of Activity:

Spent methanol that was used as a solvent in pharmaceutical manufacturing operations (a spent material listed under EPA Hazardous Waste No. P003) goes through a reclamation process on site that regenerates the methanol to better than 99.5 percent purity. When sent off-site for reuse in a variety of manufacturing processes, it must undergo further reclamation.

What is the status of the spent methanol?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one or the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

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- 8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?
- [ ] yes      [ ] no
- If Yes, the material is not a solid waste.  
If No, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.
9. Is the material used or reused
- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- [ ] as an effective substitute for commercial products in a particular function or application, or
- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?
- [X] yes      [ ] no

If Yes, the activity is reclamation. Go on to question (10a).  
If No, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- [ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)
- [ ] yes      [ ] no
- If Yes, the material is not regulated.  
If No, the material is regulated. See item (2), below.
2. The generator of the spent methanol is subject to requirements under 40 CFR 262. Transporters of the methanol are subject to requirements under 40 CFR 263. Generators recycling the methanol on-site, off-site recyclers and other parties handling the methanol prior to the on-site recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the methanol for no more than 90 days in tanks or containers prior to recycling are subject only to tank requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the methanol must be managed as hazardous wastes

Discussion:

Because the methanol is regenerated, the activity is classified as reclamation. Listed spent material that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 15

RECLAMATION - SPENT MATERIAL 25

Description of Activity:

While etchants containing chromium and sulfuric acid from surface-finishing operations, (a spent material exhibiting the characteristics of EP-toxicity and corrosivity), are treated with a substrate, producing trivalent chromium. The other metals (which do not exhibit hazardous characteristics) are transferred to a catholyte and then sold to a secondary smelter for reclamation, leaving a regenerated etchant.

What is the status of the waste etchants?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If Yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits hazardous waste characteristics or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [X] no

If Yes, go on to question (7).

If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If Yes, the material is not a solid waste. See applicable regulations, below.

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If Yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- [ ] as an effective substitute for commercial products in a particular function or application, or
- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- [X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- [ ] Yes      [X] No
- If Yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the waste etchants is subject to requirements under 40 CFR 262. Transporters of the etchants are subject to requirements under 40 CFR 263. Generators recycling the etchants on-site, off-site recyclers and other parties handling the etchants prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the etchants for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling the etchants must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the etchants are regenerated, the process is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Hazardous Secondary Material 8

**RECLAMATION - SPENT MATERIAL 26**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Isopropyl alcohol that has been contaminated by oils, perfumes, or other substances added by a variety of manufacturing practices (a spent material exhibiting the characteristic of corrosivity) is returned to the isopropyl alcohol manufacturer, where it is distilled and regenerated into pure isopropyl alcohol.

What is the status of the contaminated isopropyl alcohol?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If Yes, go on to question (2).  
If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If Yes, go on to question (3).  
If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[X] yes [ ] no

If Yes, the material is not a solid waste.  
If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[X] yes [ ] no

If Yes, the material is a solid waste. See applicable regulations, below.  
If No, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If Yes, go on to question (6).  
If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If Yes, go on to question (6a).

If No, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If Yes, go on to question (7).

If No, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes [ ] no

If Yes, go on to question (7).

If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes [ ] no

If Yes, go on to question (7).

If No, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes [ ] no

If Yes, go on to question (7a).

If No, go on to question (8).

8. Is the material used as a fuel or used to produce a fuel?

[X] yes [ ] no

If Yes, go on to question (8a).

If No, go on to question (9).

[X] yes [ ] no

If Yes, go on to question (6).

If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If Yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33);  
[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes      [X] no

If Yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the contaminated isopropyl alcohol is subject to requirements under 40 CFR 262. Transporters of the alcohol are subject to requirements under 40 CFR 263. Generators recycling the alcohol on-site, off-site recyclers and other parties handling the alcohol prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the alcohol for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the alcohol must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the isopropyl alcohol is regenerated, the process is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes. Although industrial ethyl alcohol is exempt from RCRA when regenerated, isopropyl and other alcohols are subject to RCRA Subtitle C regulation.

See Also:

Reclamation - Spent Material 6  
Energy Recovery - Spent Material 1

**RECLAMATION - SPENT MATERIAL 27**

**Description of Activity:**

Spent methyl ethyl ketone (a spent material listed under EPA Hazardous Waste No. P005) is reclaimed and used as an adhesive thinner for quick drying when applied on the magnesium casting in the assembling of chain saws and string trimmers.

What is the status of the spent methyl ethyl ketone?

**Questions:**

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (8).  
If no, go on to question (9).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, go on to question (7a).  
If no, see applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

yes       no

If yes, go on to question (6).  
If no, see applicable regulations, below.

- 8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?
- yes       no
- If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.
9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### 10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

#### 10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
 

yes       no

If Yes, the material is not regulated.  
If No, the material is regulated. See item (2), below.
2. The generator of the spent methyl ethyl ketone is subject to requirements under 40 CFR 262. Transporters of the spent methyl ethyl ketone are subject to requirements under 40 CFR 263. Generators recycling the spent methyl ethyl ketone on-site, off-site recyclers and other parties handling the spent methyl ethyl ketone prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265. Subparts A through L. Generators who store the spent methyl ethyl ketone for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues from recycling the spent methyl ethyl ketone must be managed as hazardous wastes.

#### Discussion:

Because the spent methyl ethyl ketone must be reclaimed before being reused, the process is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 1

Description of Activity:

Spent activated carbon (charcoal) from the pollution control treatment of a listed hazardous waste (a listed sludge) is regenerated.

What is the status of the spent carbon?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).  
If No, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).  
If No, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.  
If No, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.  
If No, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).  
If No, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If Yes, go on to question (6a).  
If No, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).  
If No, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If Yes, go on to question (7).  
If No, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes

[X] no  
If Yes, go on to question (7a).  
If No, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes

[ ] no  
If Yes, the material is not a solid waste.  
If No, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes

[X] no  
If Yes, go on to question (8a).  
If No, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed. (a closed-loop process)?
- If any or the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

- If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste except from regulation (see the list in Exhibit 6)?
- Yes       No
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the spent activated carbon is subject to requirements under 40 CFR 262. Transporters of the spent activated carbon are subject to requirements under 40 CFR 263. Generators recycling the spent activated carbon on-site, off-site recyclers and other parties handling the spent activated carbon prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent activated carbon for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent activated carbon must be managed as hazardous wastes.

Discussion:

The spent activated carbon is a listed sludge because it is a pollution control residue derived from the treatment of a listed waste. Because the activated carbon is regenerated, the process is defined as reclamation. Listed sludges that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation.

See Also:

Other - Non-Secondary Material I

RECLAMATION - SLUDGE 2

6. Is there a feasible means for recycling the waste?

Description of Activity:

Wastewater treatment sludge from metal finishing operations (a sludge listed under EPA Hazardous Waste No. F006) is reclaimed for the precious metals it contains: gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium. The precious metals are returned to the metal finishing operation.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the material is not a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

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1. Is the material a solid waste?  
2. Is the material a solid waste?  
3. Is the material a solid waste?  
4. Is the material a solid waste?  
5. Is the material a solid waste?

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If Yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes

no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. Because the sludge is reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these precious metals, generators, transporters and storers of the sludge are subject to notification requirements under Section 3010 of RCRA. The generator of the sludge is subject to requirements under Subpart B of 40 CFR Part 262. Transporters of the sludge are subject to requirements under 40 CFR 263.20 and 263.21, and persons who store the sludge are subject to requirements under 40 CFR 265.71 and 265.72. In addition, persons who store the wastes are subject to recordkeeping requirements under 40 CFR 266.70 to show that the sludge is not speculatively accumulated. Requirements applicable to precious metal reclamation are summarized under 40 CFR 266, Subpart F.

#### Discussion:

Because materials with value -- are recovered from the sludge, the activity is classified as reclamation. Listed sludges that are reclaimed are solid wastes, and are subject to RCRA Subtitle C regulation. However, because precious metals are being recovered, the material is subject only to RCRA requirements pertaining to notification, manifesting (if sent off-site), record-keeping, and overaccumulation.

**RECLAMATION - SLUDGE 3**

**Description of Activity:**

Spent chromic acid from metal finishing plating baths (a spent material listed under EPA Hazardous Waste No. F007) is neutralized and goes through an ion exchange process that removes the chromium. The acid is regenerated and returned to the metal finishing plating bath. The ion exchange resin (a listed sludge -- the residue derived from the treatment of a listed waste) is treated with sodium hydroxide solution to remove any impurities. It is then returned to the ion exchange column.

What is the status of the contaminated ion exchange resin?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If Yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If Yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If Yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If Yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If Yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If Yes, go on to question (6a).

If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If Yes, go on to question (7).

If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If Yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [ ] no

If Yes, go on to question (7).

If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If Yes, the material is not a solid waste.

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If Yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed. (a closed-loop process)?

If any or the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with recovered from the original material? value

yes

no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.31),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- no  
 yes
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the contaminated ion exchange resin is subject to requirements under 40 CFR 262. Transporters of the resin are subject to requirements under 40 CFR 263. Generators recycling the resin on-site, off-site recyclers and other parties handling the resin prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the resin for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Any residues derived from recycling the resin must be managed as hazardous wastes.

Discussion:

Because the contaminated ion exchange resin is regenerated, the process is classified as reclamation. Listed sludges that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation. (The ion exchange resin is deemed to be listed because it is derived from treating a listed waste. See 50 FR 619 n.7.)

See Also:  
Reclamation - Spent Material 4  
Other - Non-Secondary Material 9  
Other - Non-Secondary Material 12

RECLAMATION - SLUDGE 4

Description of Activity:

Contaminated ion exchange resins from pollution control measures in the production of phenoxy herbicides and their intermediates (a sludge exhibiting the characteristic of EP-toxicity) are regenerated through the addition of methanol and distillation of the regenerant solution.

What is the status of the contaminated ion exchange resins?

Questions:

1. Is the material that is recycled a secondary material?
 

[X] yes [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)
 

[X] yes [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?
 

[ ] yes [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?
 

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?
 

[X] yes [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
6. Is there a feasible means for recycling the waste?
 

[X] yes [ ] no

If yes, go on to question (7).  
If no, go on to question (8).
  - 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?
 

[ ] yes [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
  7. Is the material placed on the ground or used in a product that is placed on the ground?
 

[ ] yes [X] no

If yes, go on to question (8).  
If no, go on to question (9).
  8. Is the material used as a fuel or used to produce a fuel?
 

[ ] yes [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

8. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes

[ ] no

If yes, the material is not a solid waste.

If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes

[ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- [ ] a commercial chemical product that exhibits a hazardous characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes

[ ] no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

Because the ion exchange resins are regenerated, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or buried as a fuel. Since these exceptions do not apply in this case, the ion exchange resins are not a solid waste and are not subject to RCRA Subtitle C regulation. If EPA were to list these sludges, the Agency would consider the factors set forth at 50 FR 641.

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

RECLAMATION - SLUDGE 5

Description of Activity:

Furnace control dust from a primary zinc smelting furnace (a sludge exhibiting the characteristic of Ep-toxicity) is reclaimed to recover zinc, which is returned to the zinc production process.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (8).  
If no, go on to question (6).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, go on to question (8).  
If no, the material is not a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused
- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- [ ] as an effective substitute for commercial products in a particular function or application, or
- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- [ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- [ ] yes      [ ] no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
- DISCUSSION:
- When reclaimed, characteristic sludges are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the emission control dust is not a solid waste and is not subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 6

Description of Activity:

Ripent carbon from the treatment of wastewater containing explosives (a sludge listed under EPA Hazardous Waste No. K045) is regenerated and reused in the wastewater treatment process.

What is the status of the spent carbon?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [X] no

If yes, go on to question (7a).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste. If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused?

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
 as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes

no

If yes, the material is not regulated. If no, the material is regulated. See item (2), below.

2. The generator of the spent carbon is subject to requirements under 40 CFR 262. Transporters or the spent carbon are subject to requirements under 40 CFR 263. Generators recycling the spent carbon on-site, off-site recyclers and other parties handling the spent carbon prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the spent carbon for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent carbon must be managed as hazardous wastes.

Discussion:

Because the spent carbon is regenerated prior to reuse, the activity is defined as reclamation. When reclaimed, listed sludges are solid wastes and thus are subject to RCRA Subtitle C regulation. (The spent carbon is deemed to be listed because it is derived from treating a listed waste. See 50 FR at 619 n.7.)

**RECLAMATION - SLUDGE 7**

**Description of Activity:**

Baghouse dusts from brass mills (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their zinc content by secondary zinc smelters. The zinc is sold back to the mill for use as an ingredient in the production of brass.

What is the status of the baghouse dusts?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] Yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] Yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] Yes      [X] No

If Yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] Yes      [X] No

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] Yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] Yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] Yes      [ ] no

If yes, go on to question (7).

If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.31? or is listed

[ ] Yes      [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] Yes      [X] no

If yes, go on to question (8a).

If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.31 that is produced for application to the land?

[ ] Yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] Yes      [X] no

If yes, go on to question (8a).

If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] Yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
[ ] yes      [ ] no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

#### Discussion:

Because material with value -- the zinc -- is recovered from the baghouse dusts, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and thus are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply to this case, the baghouse dusts are not a solid waste and are thus not subject to RCRA Subtitle C regulation.

**RECLAMATION - SLUDGE 8**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Emission control dust from a zinc smelting furnace exhibiting the characteristic of EP-toxicity is sent to a cadmium recovery operation. The cadmium is then sold to metal finishers for use in electroplating operations.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24 and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [X] no

If yes, go on to question (7).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (9a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or  
[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes      [ ] no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

Because material with value -- the cadmium -- is recovered, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply to this case, the emission control dust is not a solid waste and thus is not subject to RCRA Subtitle C regulation. [Note: This operation would not be defined as a closed-loop process since the cadmium recovery operation is an ancillary unit operation to the zinc smelting furnace.]

**RECLAMATION - SLUDGE 9**

**Description of Activity:**

Fabricating sludge from the wastewater treatment processes of an electronics and computer manufacturing firm (a sludge listed under EPA Hazardous Waste No. F006) is dewatered and reclaimed for its metals content, after which the metals (mostly copper) are sold.

What is the status of the sludge?

**Questions:**

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (7a).  
If no, go on to question (6).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, go on to question (7a).  
If no, the material is not a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

8.1. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10b. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33).

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the sludge is subject to requirements under 40 CFR 262. Transporters of the sludge are subject to requirements under 40 CFR 263. Generators recycling the sludge on-site, off-site recyclers and other parties handling the sludge prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludge for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the sludge must be managed as hazardous wastes.

Discussion:

Because this sludge is dewatered and materials with value -- the metals -- are recovered from it, the process is classified as reclamation. Listed sludges that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 10

6. Is there a feasible means for recycling the waste?

Description of Activity:

Flue dusts from secondary copper smelters (a sludge exhibiting the characteristic of Ep-toxicity) are reclaimed for their zinc content by secondary zinc smelters. The zinc is sold for use as an ingredient in the production of galvanized metals.

What is the status of the flue dusts?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (8).  
If no, go on to question (9).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[X] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

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8. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes

no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes

no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.21, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or
- a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes

no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

#### Discussion:

Because material with value -- the zinc -- is recovered from the flue dusts, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the flue dusts are not a solid waste and are thus not subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 11

Description of Activity:

Electrostatic precipitator ash from refuse incineration flue gas in municipal incinerators (a sludge exhibiting the characteristic of p-toxicity) is extended with a weak acidic solution to dissolve zinc. The zinc is then extracted with an organic solvent and stripped electrolytically, yielding 100 percent pure zinc that can be used in the production of galvanized metals.

What is the status of the electrostatic precipitator ash?

Questioning:

1. Is the material that is recycled a secondary material?

yes       no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes       no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of Solid Waste under 40 CFR 261.4(a) (see the list in Exhibit 4)?

yes       no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes       no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes       no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes       no

If Yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

yes       no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes       no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes       no

If yes, go on to question (7).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes       no

If yes, go on to question (7).  
If no, the material is not a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes       no

If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes

[ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes

[ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

[ ] If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes

[ ] no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

Because material with value -- zinc -- is recovered from the electrostatic precipitator ash, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes, and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the ash is not a solid waste and thus is not subject to RCRA Subtitle C regulation.

**RECLAMATION - BY-PRODUCT 1**

**Description of Activity:**

Brine dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals, which also exhibit EP-toxicity, are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the metals?

**Questions:**

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).

If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).

If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If yes, go on to question (7).

If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If yes, go on to question (7a).

If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If yes, go on to question (7a).

If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8a).

If no, go on to question (9).

- 8a. Does the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If yes, go on to question (8b).

If no, go on to question (9).

iii. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused
- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- [ ] as an effective substitute for commercial products in a particular function or application, or
- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed. (a closed-loop process?)

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33,
- [ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or
- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

- [X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?
- If any of the above apply, the material is not a solid waste.
- If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- [ ] yes      [ ] no
- If yes, the material is not regulated.
- If no, the material is regulated. See item (2), below.
- Discussion:
- Because separation of the metals and oxides does not complete the reclamation process, the metals, like the unprocessed dross skimmings, are a characteristic by-product. Smelting of the metals to recover copper and zinc constitutes reclamation. Characteristics by-products that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation.

See Also:

Use Constituting Disposal - By-Product 1  
Use Constituting Disposal - By-Product 2

RECLAMATION - BY-PRODUCT 2

- Description of Activity:  
Column bottoms and heavy ends containing hexachlorobutadiene from the production of perchlorethylene (a by-product that is listed under EPA Hazardous Waste No. K030) are stripped of volatile materials (which are recycled back into the perchlorethylene process) and further distilled to recover marketable hexachlorobutadiene.
- What is the status of the column bottoms and heavy ends?
- Questions:
1. Is the material that is recycled a secondary material?  
[X] yes [ ] no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
[X] yes [ ] no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
[ ] yes [X] no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?  
[ ] yes [X] no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?  
[X] yes [ ] no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.
  6. Is there a feasible means for recycling the waste?  
[X] yes [ ] no  
If yes, go on to question (6a).  
If no, go on to question (6b).  
6a. Is at least 75 percent of the material recycled within one calendar year?  
[X] yes [ ] no  
If yes, go on to question (7).  
If no, go on to question (6b).  
6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
[ ] yes [ ] no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
  7. Is the material placed on the ground or used in a product that is placed on the ground?  
[ ] yes [X] no  
If yes, go on to question (8).  
If no, go on to question (7a).  
7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
[ ] yes [X] no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
  8. Is the material used as a fuel or used to produce a fuel?  
[ ] yes [X] no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If Yes, the activity is reclamation. Go on to question (10a).

If no, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?  
 yes       no  
If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the column bottoms and heavy ends is subject to requirements under 40 CFR 262. Transporters of the column bottoms and heavy ends are subject to requirements under 40 CFR 263. Generators recycling the column bottoms and heavy ends are subject to requirements under 40 CFR 264. Storage facilities handling the column bottoms and heavy ends prior to recycling may be subject to requirements under 40 CFR 265 through L. Generators who store the column bottoms and heavy ends for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling must be managed as hazardous wastes.

Discussion:

Stripping or volatile materials and distillation to recover hexachlorobutadiene are reclamation steps. Listed by-products that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation.

See Also:

Other - Non-Secondary Material 5

RECLAMATION - BY-PRODUCT 3

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

Description of Activity:

still bottoms from the distillation of benzyl chloride in chemicals manufacturing (a by-product listed under EPA Hazardous Waste No. K014) are reclaimed for their chloride content. (The reclamation operation is not carried out in an incinerator.) The chlorides are used as an ingredient to produce hydrochloric acid, which is used as a feedstock in chemical manufacturing.

What is the status of the still bottoms prior to being reclaimed?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4 (b).)

[X] yes      [ ] no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes      [ ] no

If yes, go on to question (7).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes      [ ] no

If yes, go on to question (7a).  
If no, go on to question (8).

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials).

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33).

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes      [X] no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the still bottoms is subject to requirements under 40 CFR 262. Transporters of the still bottoms are subject to requirements under 40 CFR 263. Generators recycling still bottoms on-site, off-site recyclers and other parties handling the still bottoms prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the still bottoms for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the still bottoms must be managed as hazardous wastes.

#### Discussion:

Because materials with value -- the chlorides -- are reclaimed from the still bottoms, the process is classified as reclamation. Listed wastes that are reclaimed are solid wastes, and are thus subject to RCRA Subtitle C regulation.

#### See Also:

Reclamation - By-Product 4

RECLAMATION - BY-PRODUCT 4

Description of Activity:

Still bottoms from chemicals manufacturing (a by-product exhibiting the characteristic of corrosivity) are reclaimed through a chemical treatment process for their chloride content. (The reclamation operation is not carried out in an incinerator.) The chlorides are used as an ingredient to produce hydrochloric acid, which is used as a feedstock in chemical manufacturing.

What is the status of the still bottoms prior to being reclaimed?

- Questions:
1. Is the material that is recycled a secondary material?

[X] yes      [ ] no

If Yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes      [ ] no

If Yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes      [X] no

If Yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes      [X] no

If Yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes      [ ] no

If Yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes      [ ] no

If Yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[X] yes      [ ] no

If Yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes      [ ] no

If Yes, go on to question (8).  
If no, go on to question (9).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[X] yes      [ ] no

If Yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes      [X] no

If Yes, go on to question (8a).  
If no, go on to question (9).

[X] yes      [ ] no

If Yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- [ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- [ ] as an effective substitute for commercial products in a particular function or application, or
- [ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

- [ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or

- [ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and that is not listed under 40 CFR 261.31-32, or
- [ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.  
If none of the above apply, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the process exempt from regulation (see the list in Exhibit 6)?

[ ] yes      [ ] no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

Discussion:

Because materials with value -- the chlorides -- are reclaimed from the still bottoms, the process is classified as reclamation. Characteristic by-products that are reclaimed are not defined as solid wastes and thus are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the still bottoms are not a solid waste and thus are not subject to RCRA Subtitle C regulation.

See Also:

Reclamation - By-Product 3

**RECLAMATION - BY-PRODUCT 5**

6. Is there a feasible means for recycling the waste?

Description of Activity:

Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production (by-products listed under EPA Hazardous Waste No. K073) are smelted to recover lead.

What is the status of the chlorinated hydrocarbon waste?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If Yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[X] yes [ ] no

If Yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If Yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If Yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If Yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [ ] no

If Yes, go on to question (7).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If Yes, go on to question (7).  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If Yes, go on to question (8a).  
If no, go on to question (9).

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8.1. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused
- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
  - as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes       no

If yes, the activity is reclamation. Go on to question (10a).

If no, Please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- yes       no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the chlorinated hydrocarbon waste is subject to requirements under 40 CFR 262. Transporters of the chlorinated hydrocarbon waste are subject to requirements under 40 CFR 263. Generators recycling the chlorinated hydrocarbon waste on-site, off-site recyclers and other parties handling the chlorinated hydrocarbon waste prior to smelting may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the chlorinated hydrocarbon waste for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the chlorinated hydrocarbon waste must be managed as hazardous wastes.

Discussion:

Because materials with value -- the lead -- are recovered from the waste, the process is classified as reclamation. Listed by-products that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - BY-PRODUCT 6

6. Is there a feasible means for recycling the waste?

Description of Activity:

Chloralkali sludges (by-products listed under EPA Hazardous Waste No. F(0)1) are dewatered, roasted, condensed and demisted to recover mercury.

What is the status of the sludges?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).

If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).

If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.

If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).

If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If Yes, go on to question (6a).  
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).  
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [ ] no

If yes, go on to question (7a).  
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [ ] no

If yes, go on to question (8a).  
If no, go on to question (9).

8n. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes      [ ] no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),  
[ ] as an effective substitute for commercial products in a particular function or application, or  
[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes      [ ] no

If Yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- [X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),  
[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-24, or  
[ ] a scrap metal?  
If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

- [ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.0-.24, and that is not listed under 40 CFR 261.31-32, or  
[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?  
If any of the above apply, the material is not a solid waste.  
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?
- [ ] yes      [X] no
- If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.
2. The generator of the sludges is subject to requirements under 40 CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, off-site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the sludges must be managed as hazardous wastes.

Discussion:

Because material with value -- mercury -- is recovered from the waste, the process is classified as reclamation. Listed by-products that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.